

Figure C1

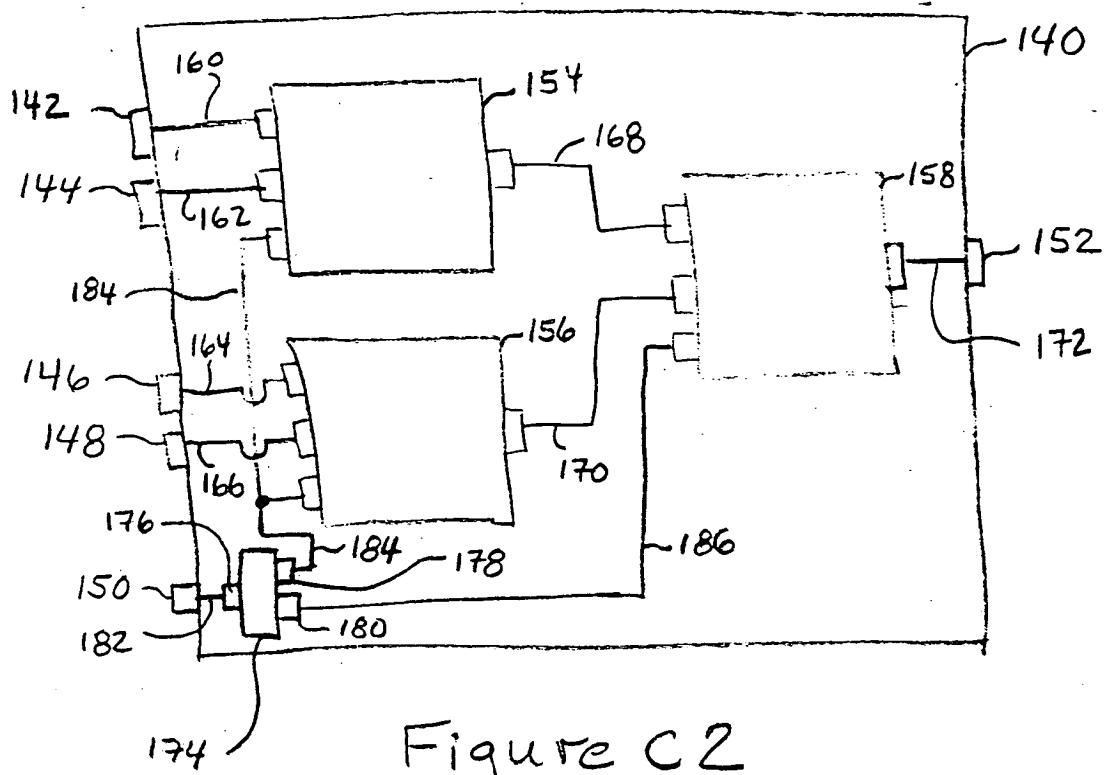


Figure C2

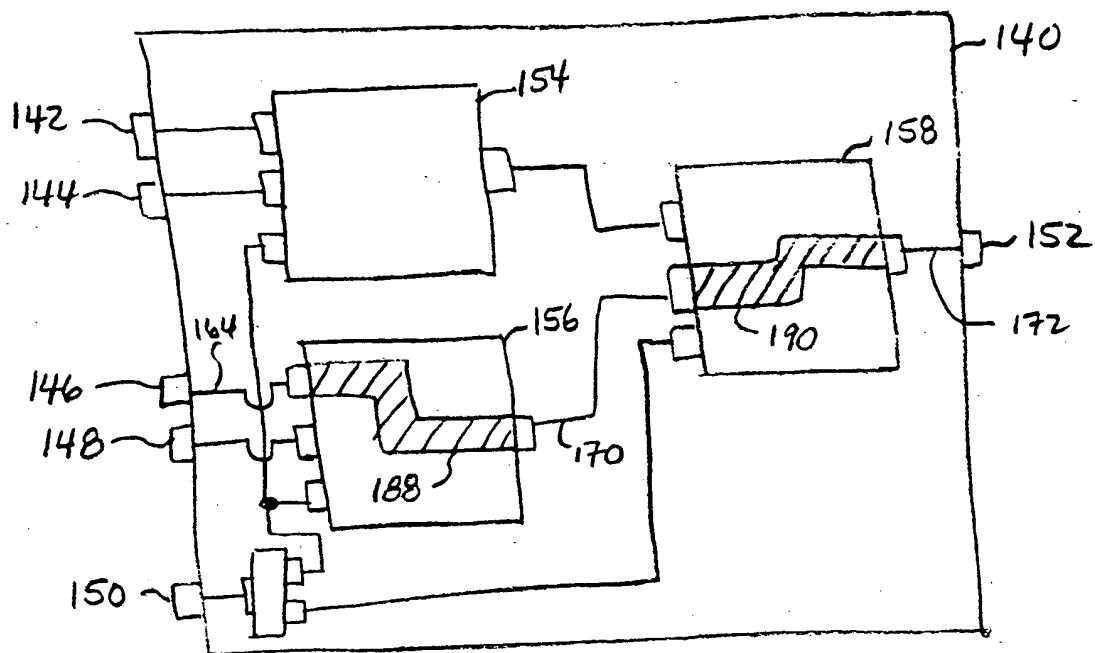


Figure C3

Figure D1

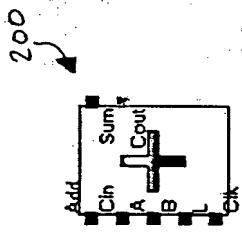
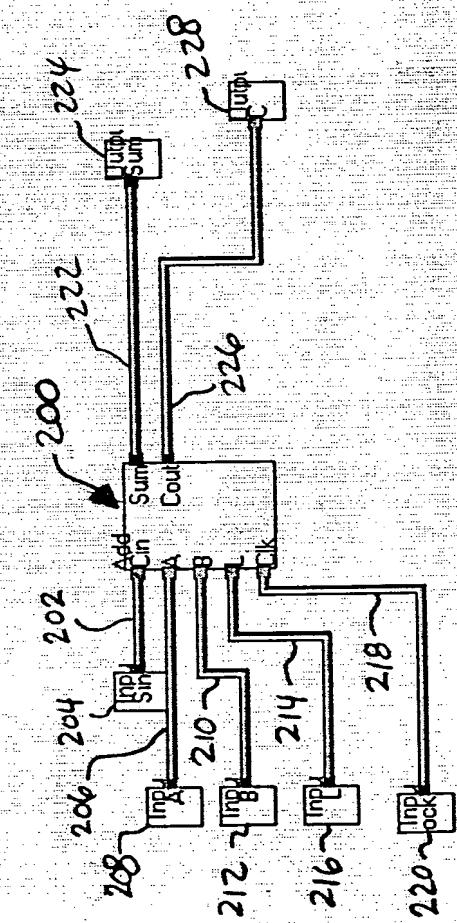


Figure D2



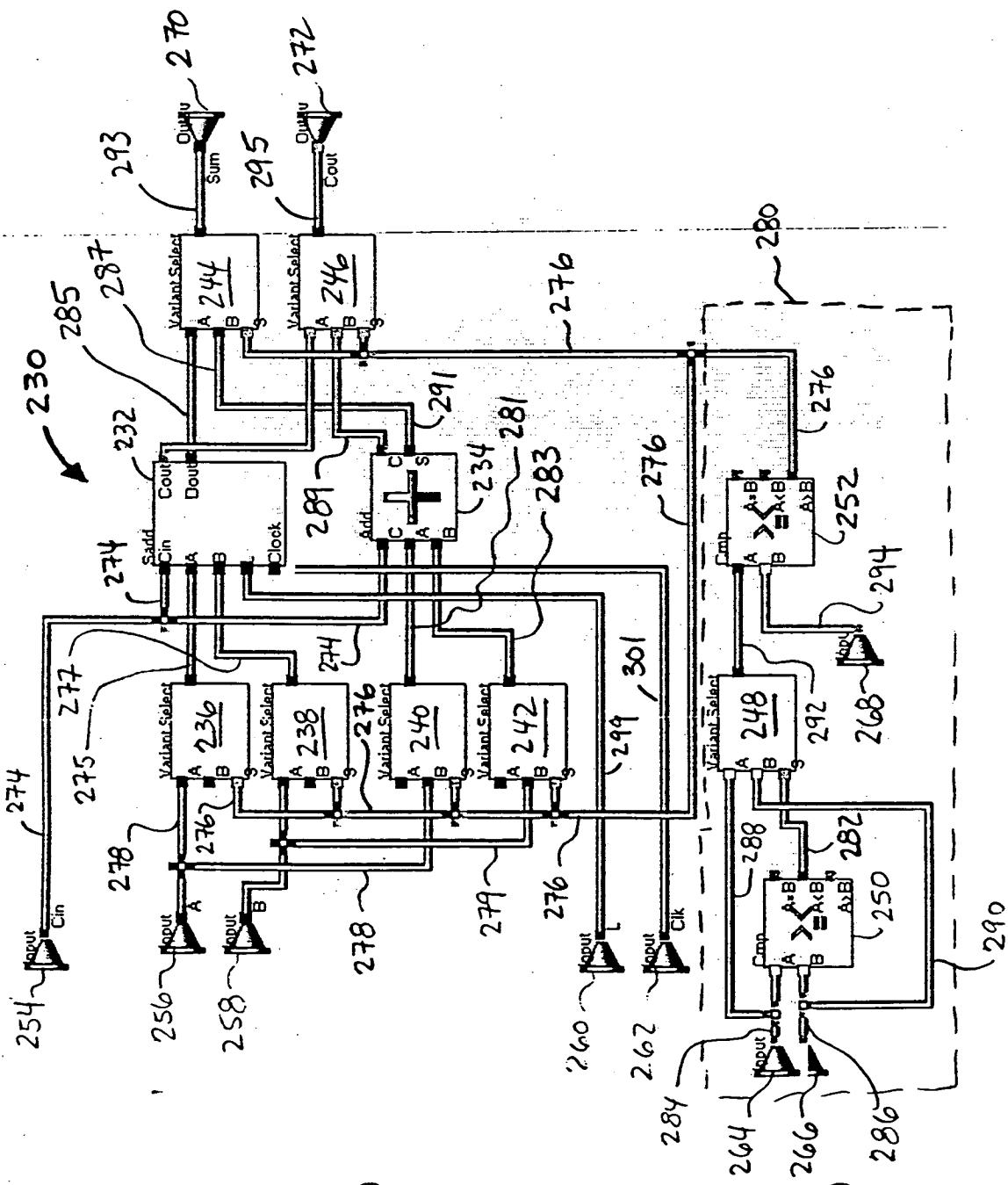


Figure D3

Figure D4

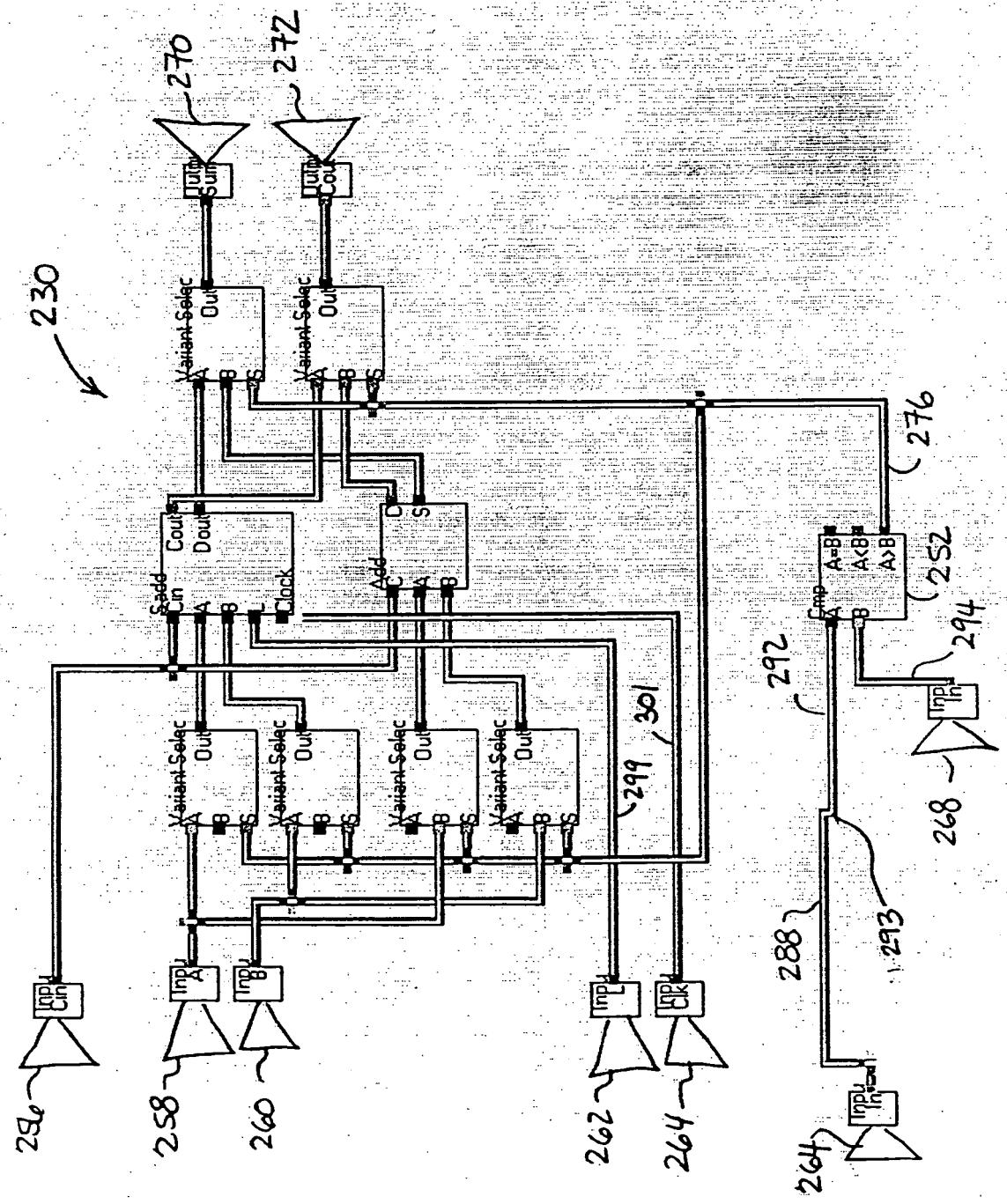


Figure D5

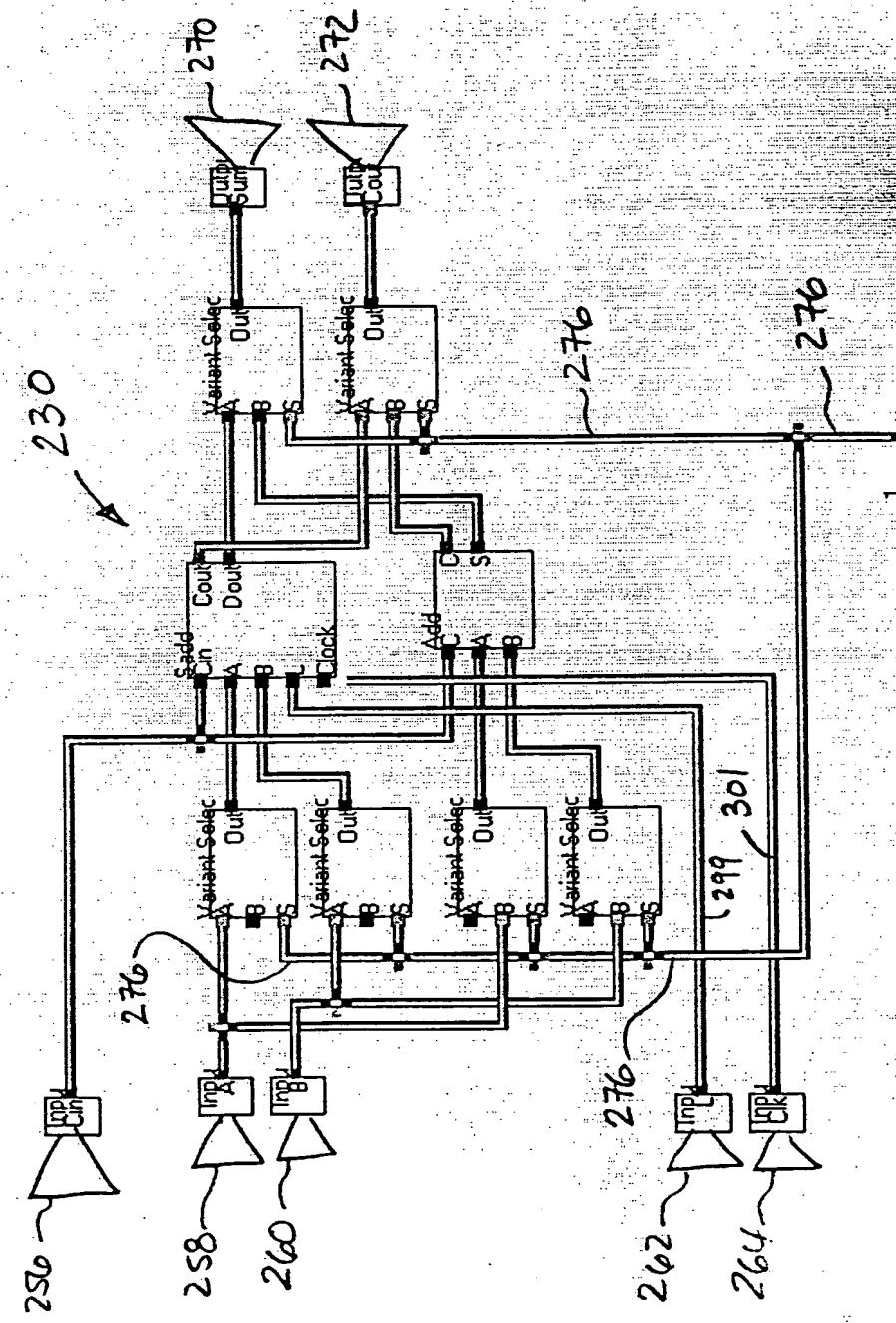


Figure D6

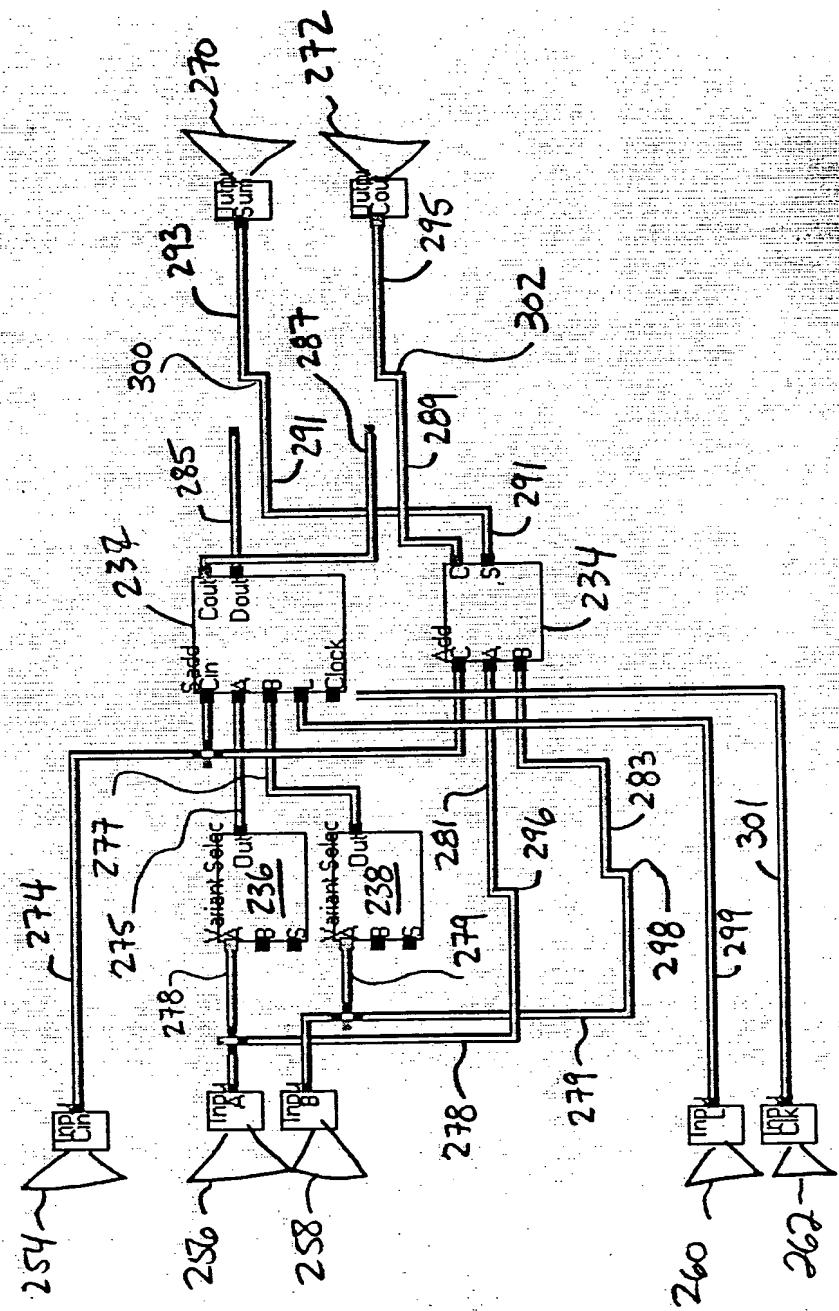


Figure D7

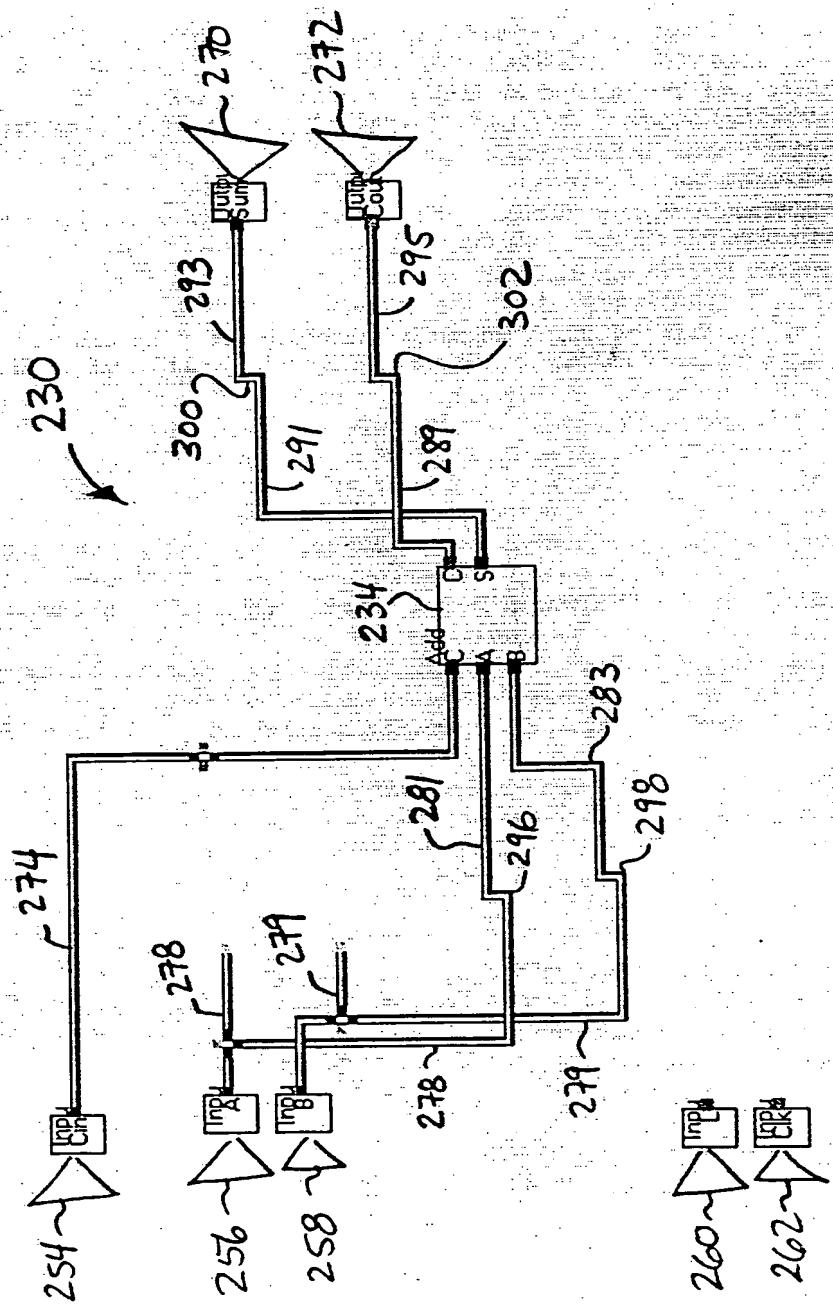
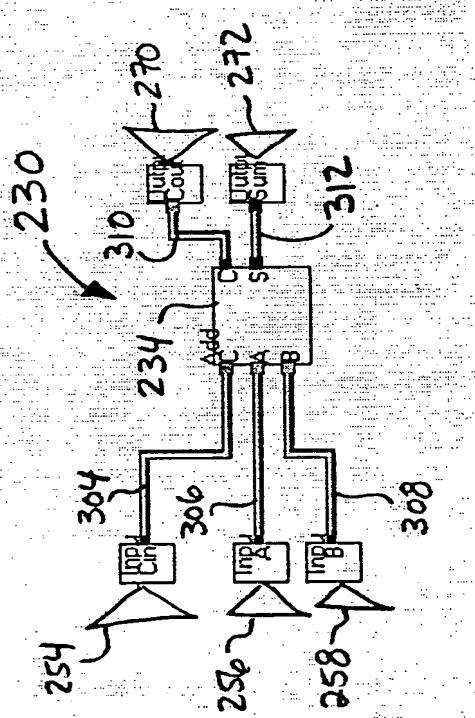


Figure D8



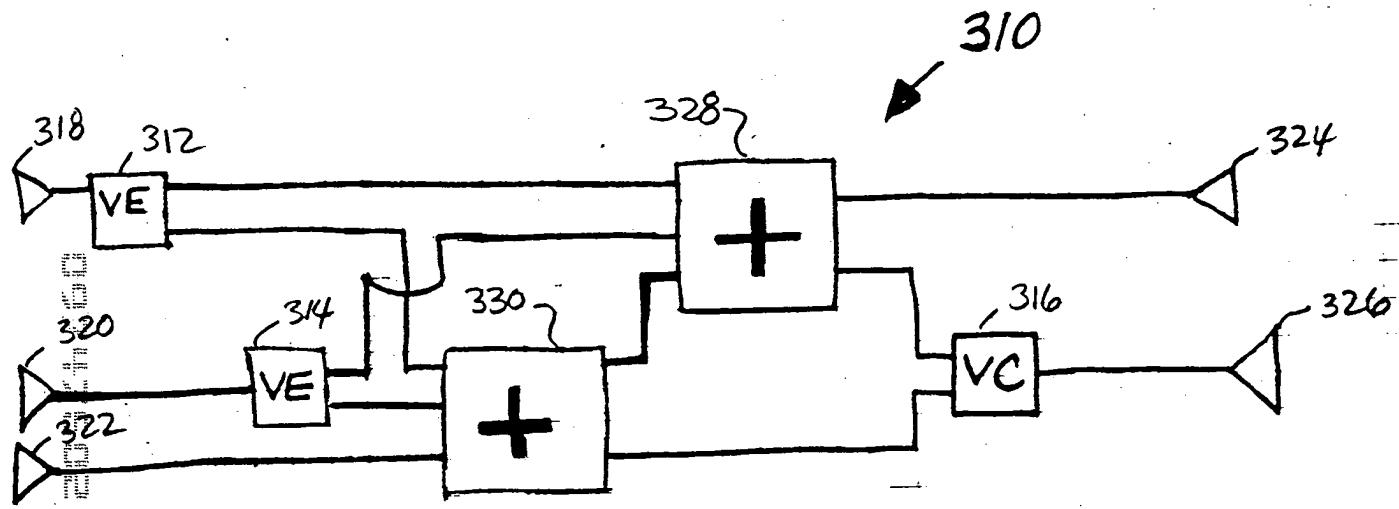


Figure D9

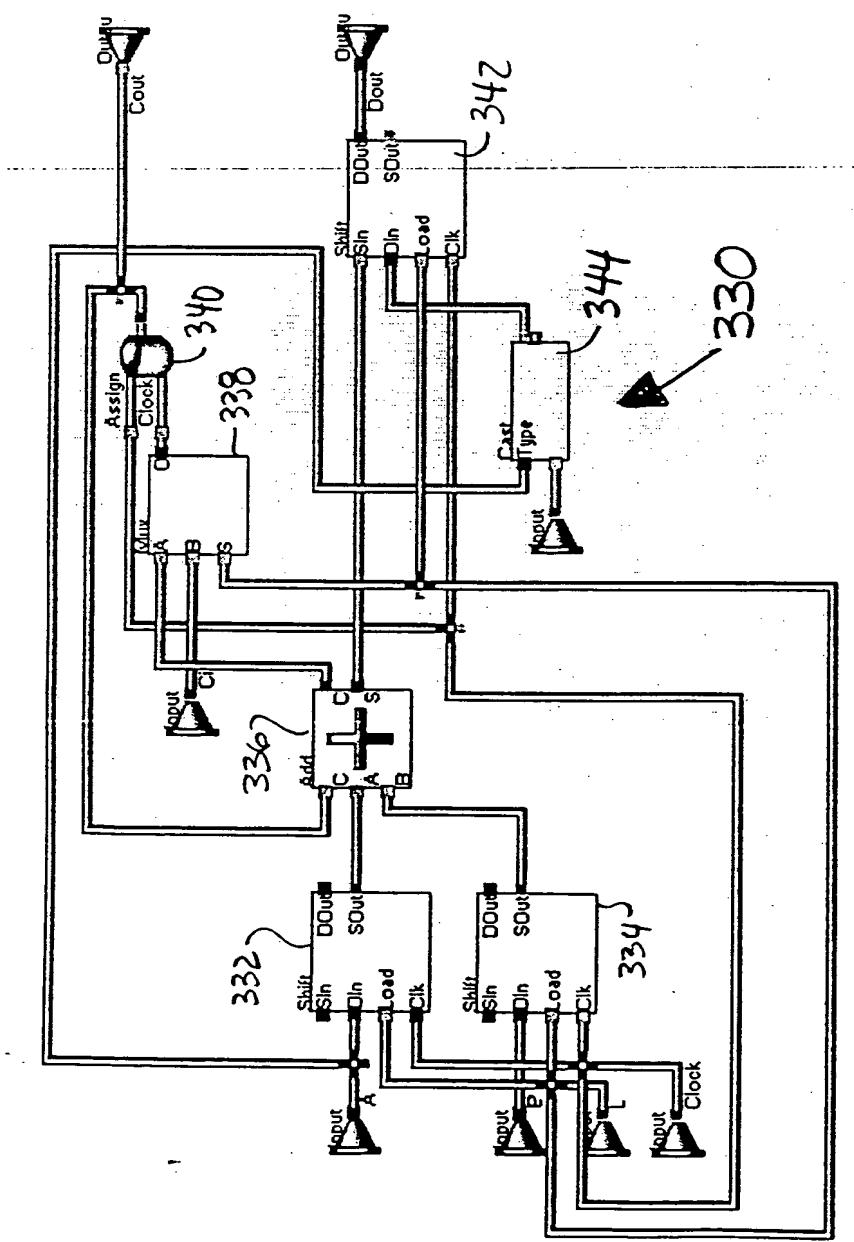


Figure D10

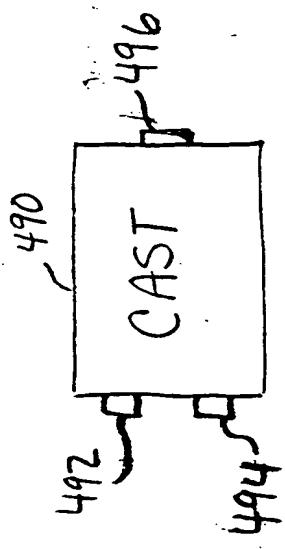


Figure E1A

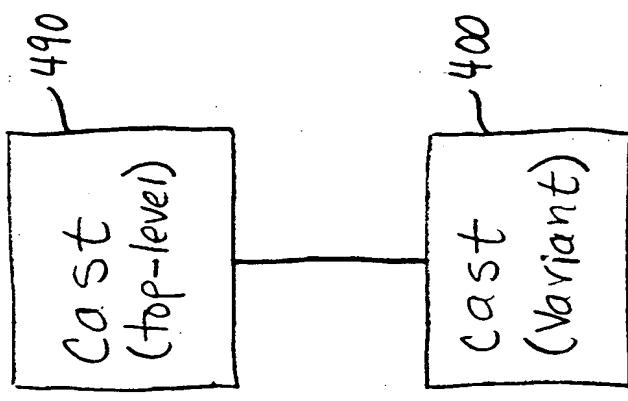


Figure E1B

Figure E1
CAST (in general)

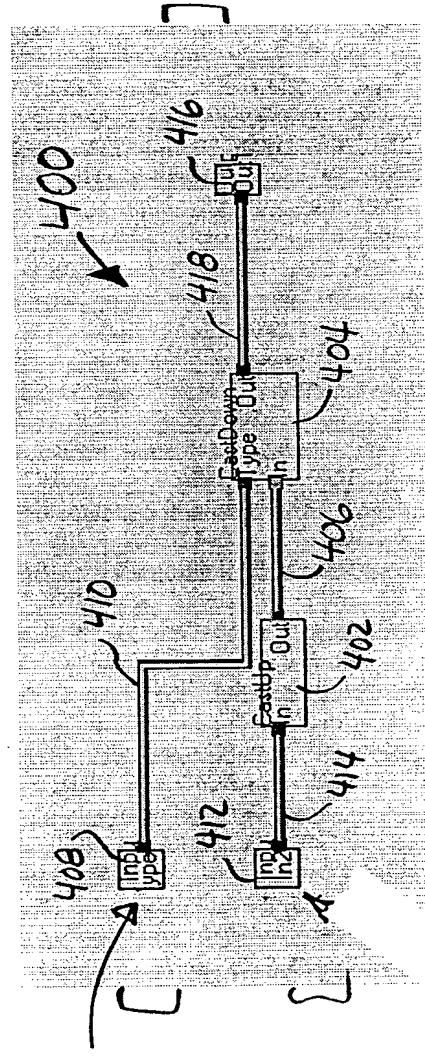
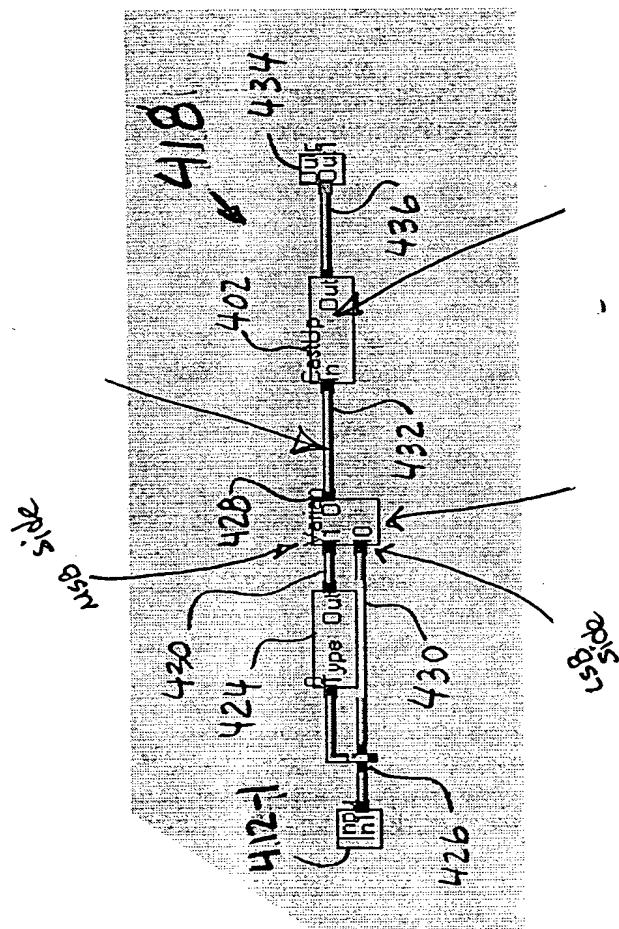


Figure E2



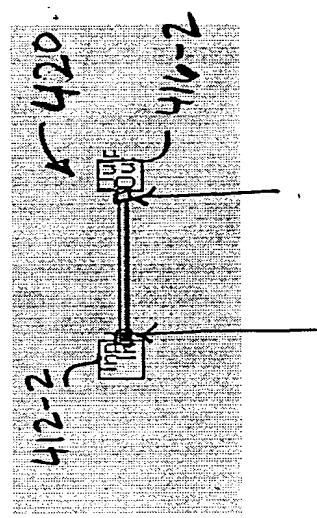
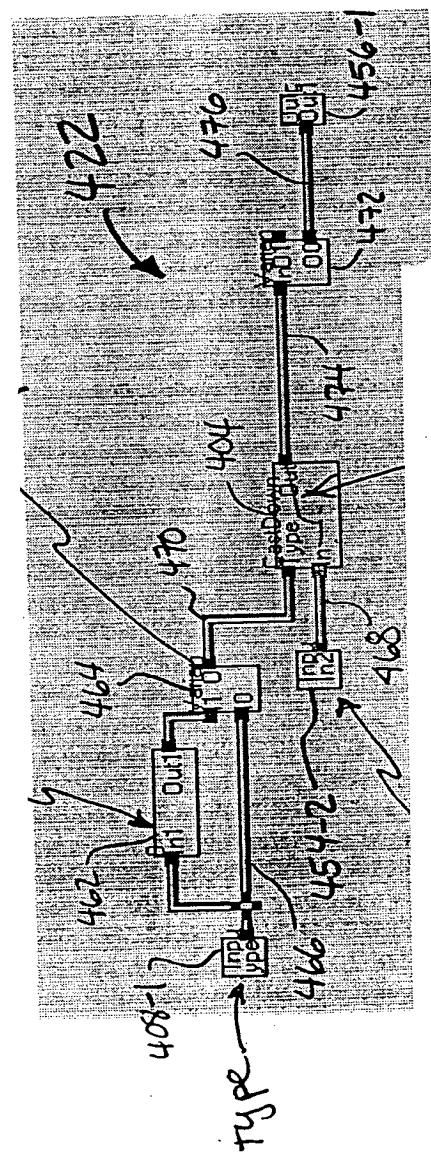


Figure E3

Figure E4



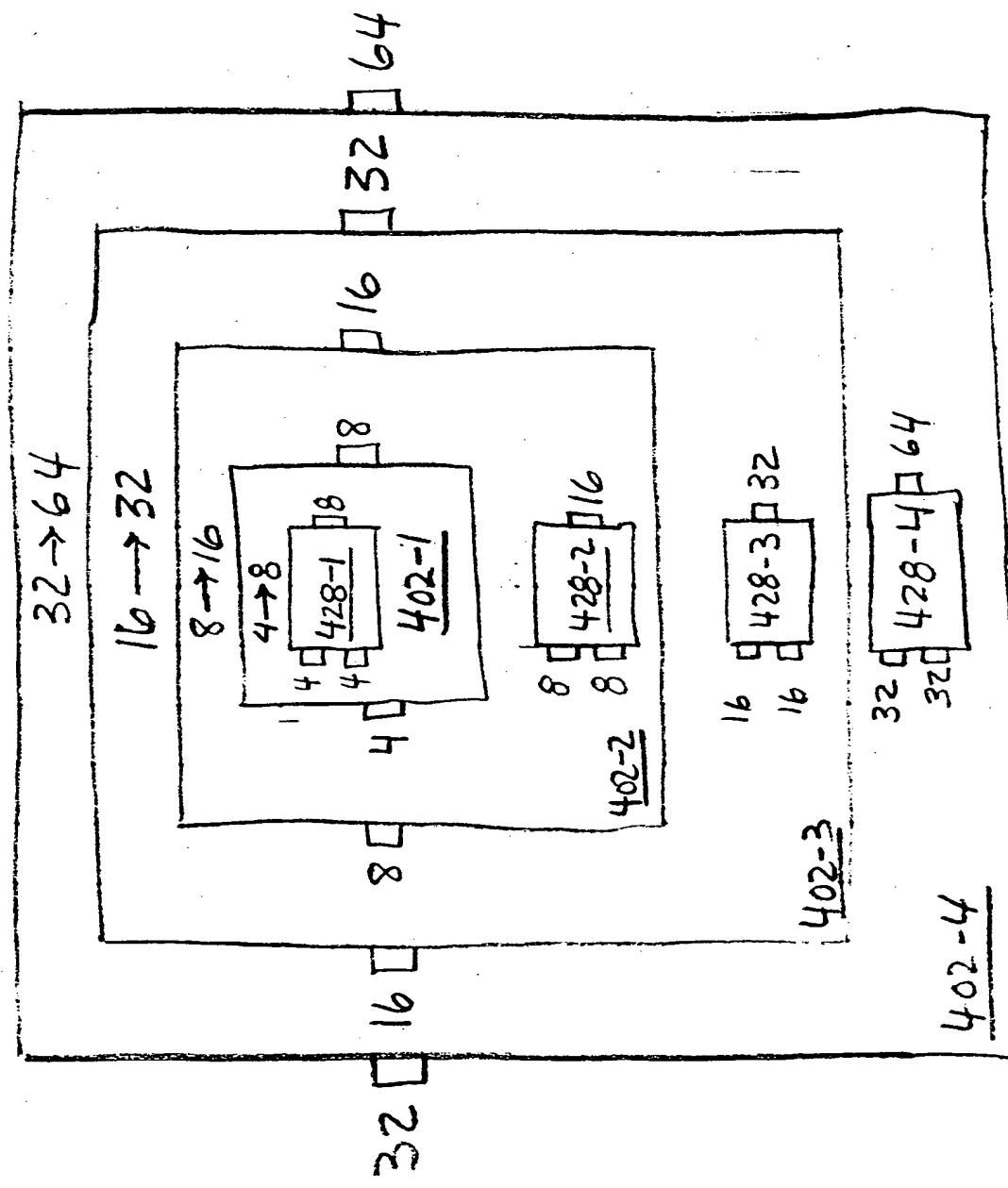


Figure E5

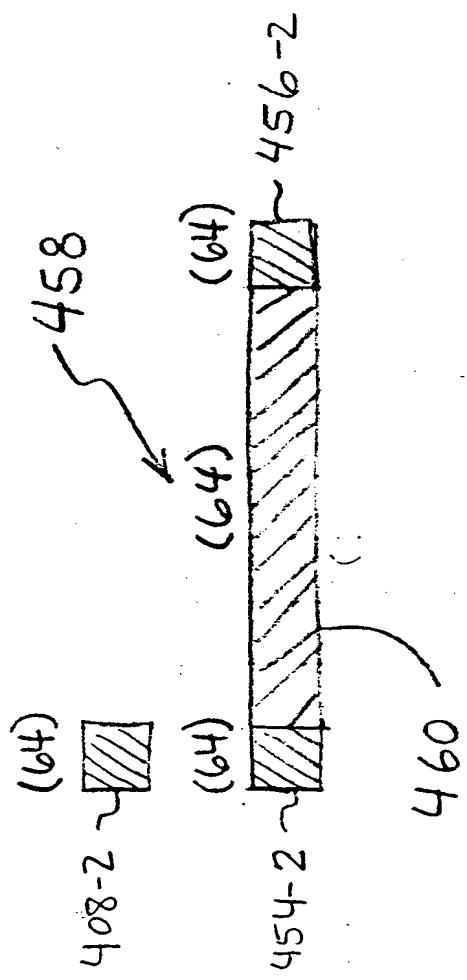


Figure E6

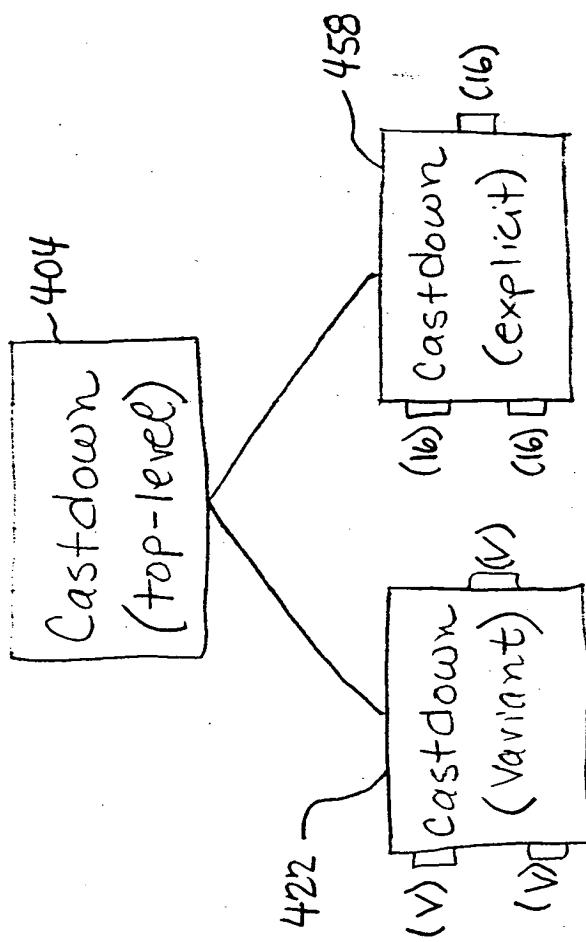
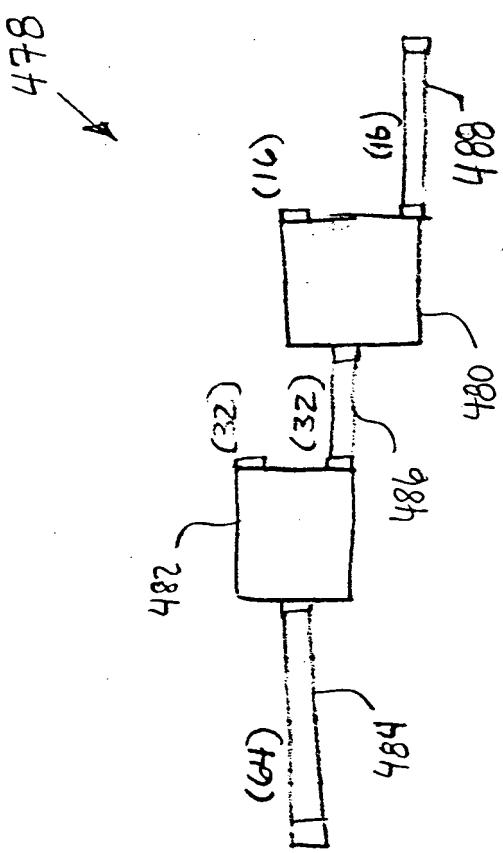


Figure E7

Figure E8



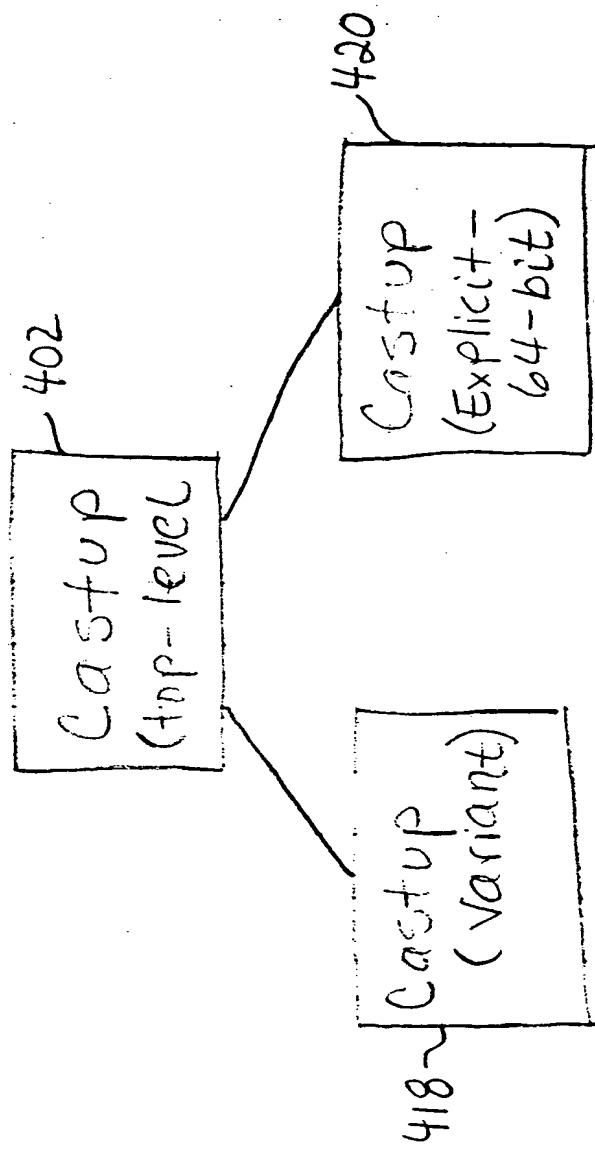


Figure E9

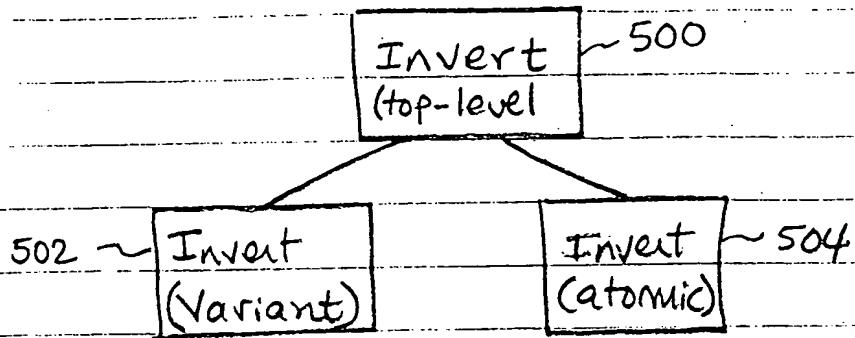


Figure F1

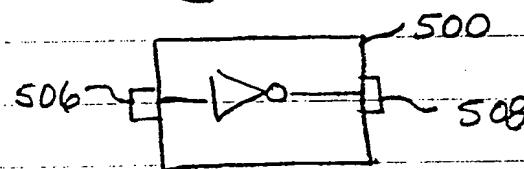


Figure F2

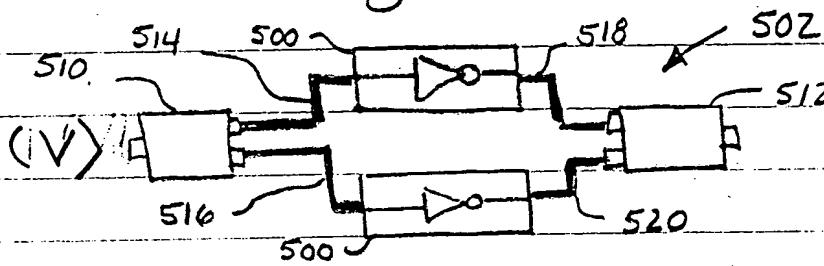


Figure F3

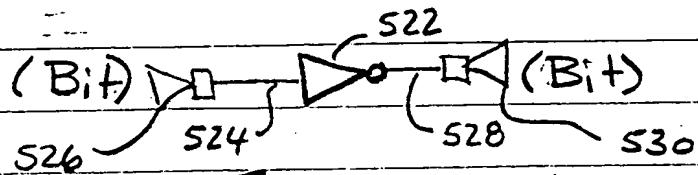


Figure F4

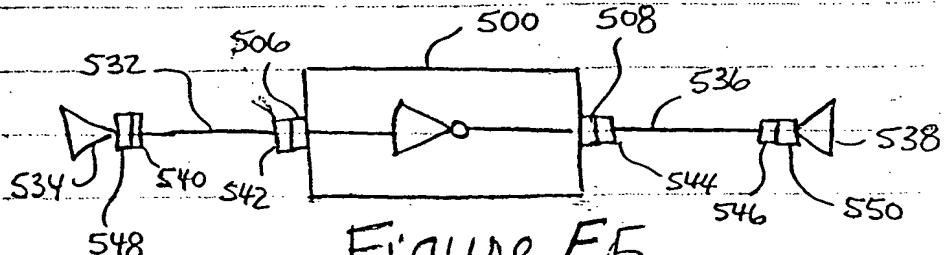


Figure F5

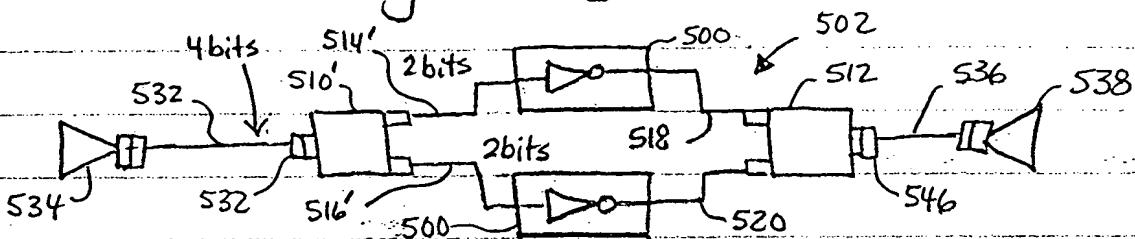


Figure F6

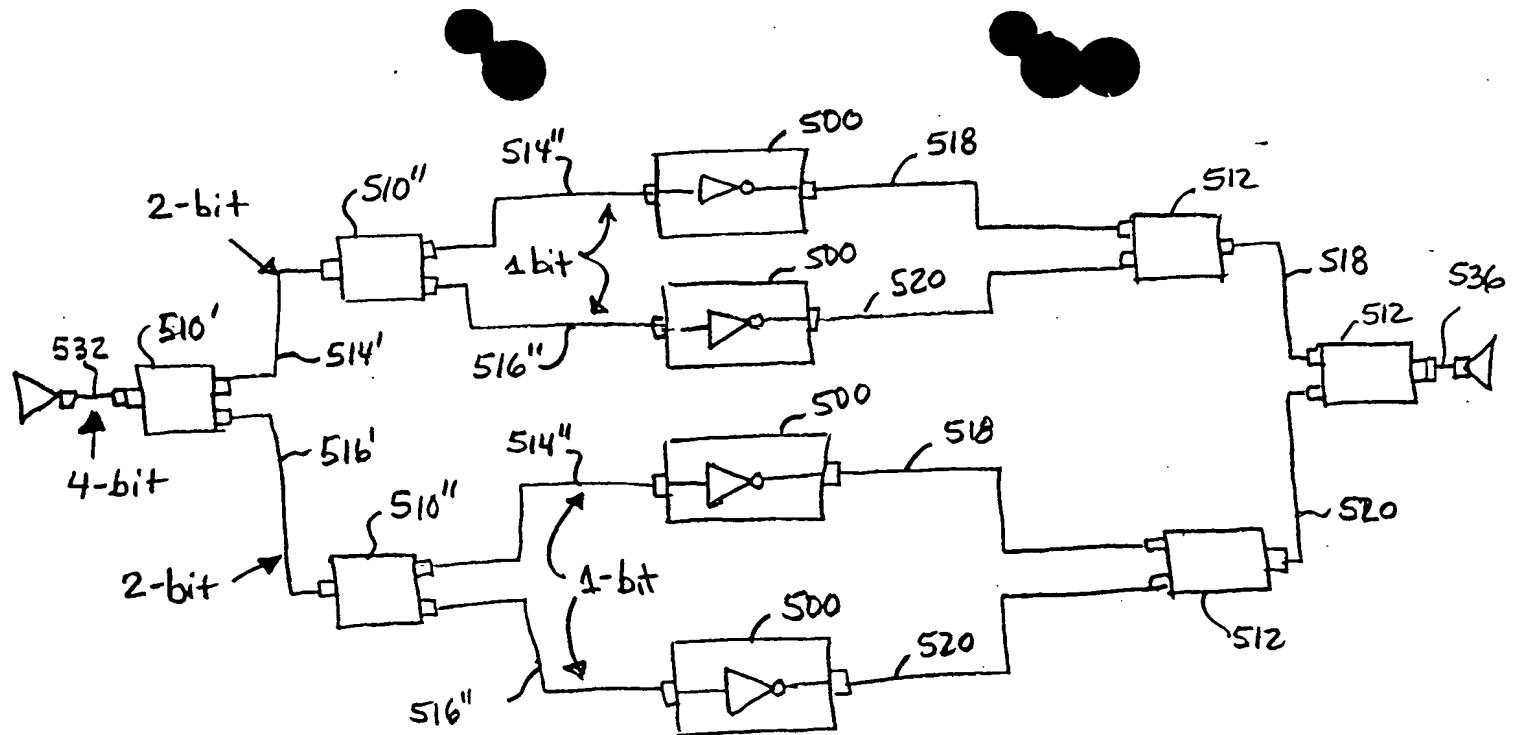


Figure F7

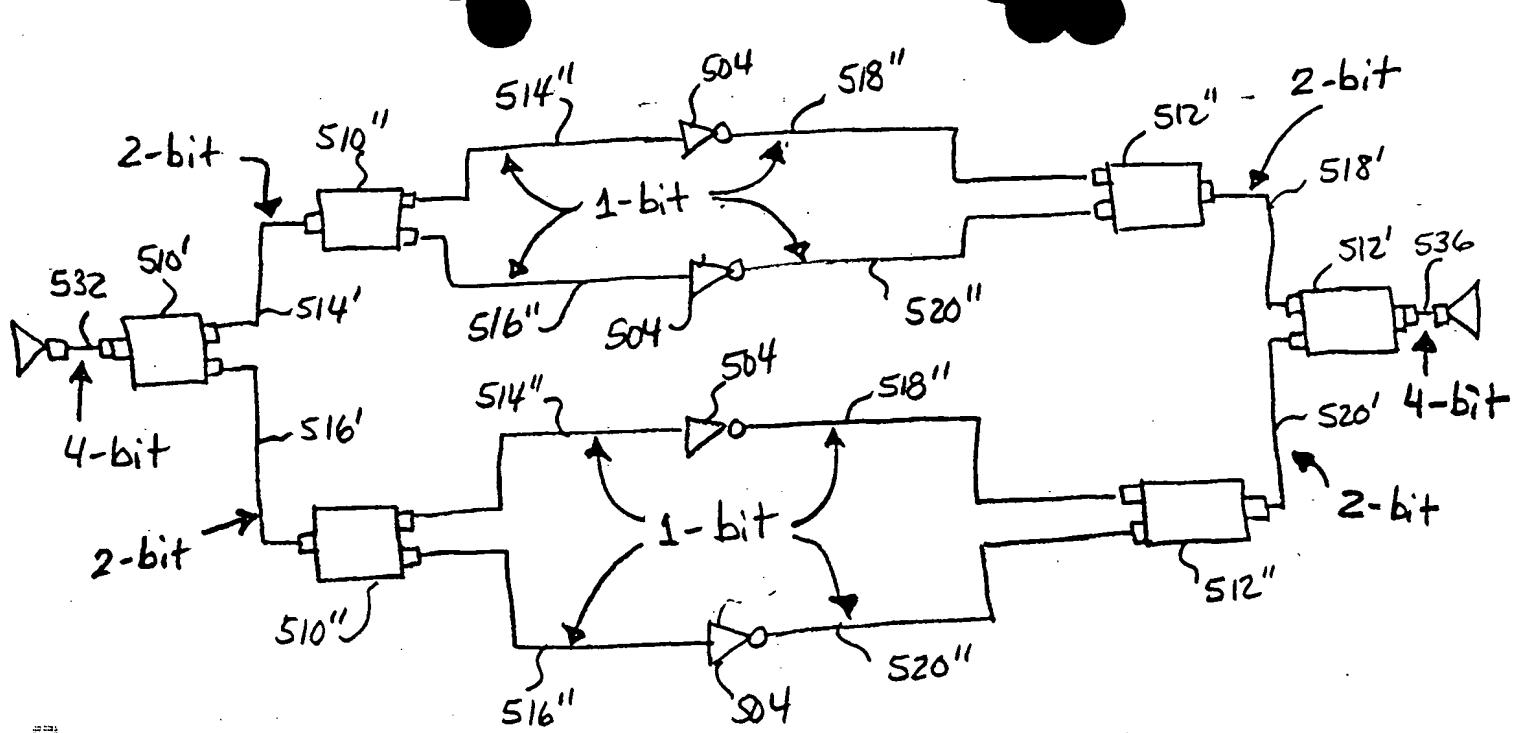


Figure F8

Bit (1-bit)

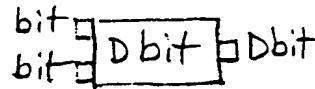
exposed

Collector

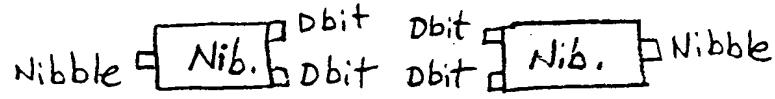
—

—

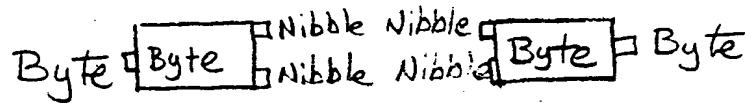
Dbit (2-bits)



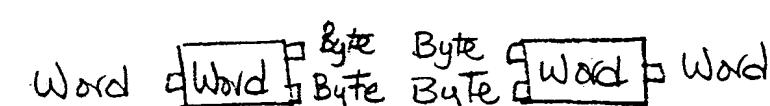
Nibble (4-bits)



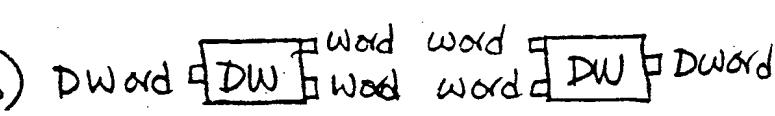
Byte (8-bits)



Word (16-bits)



DWord (32-bits)



QWord (64-bits)

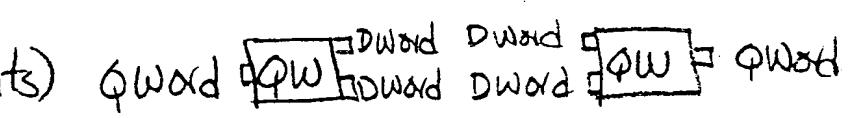


Figure 6.1

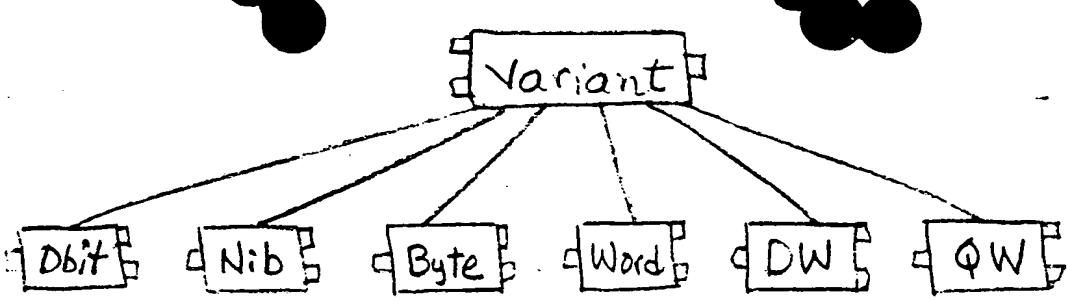


Figure G2

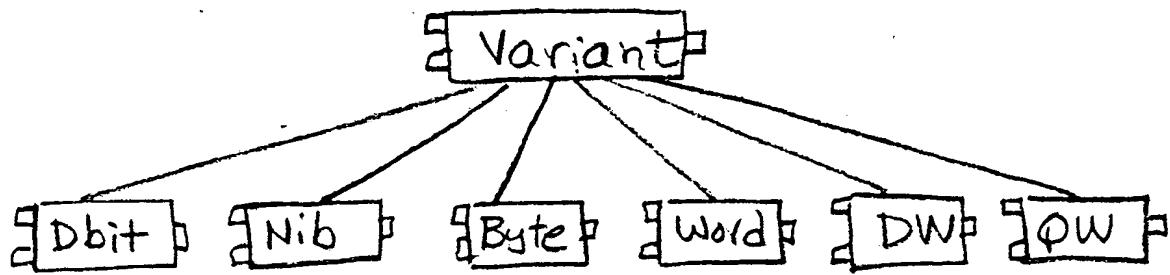
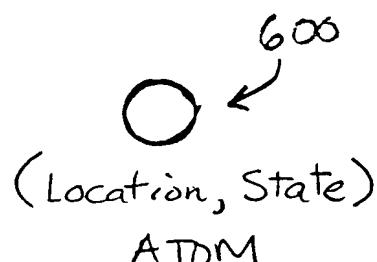


Figure G3



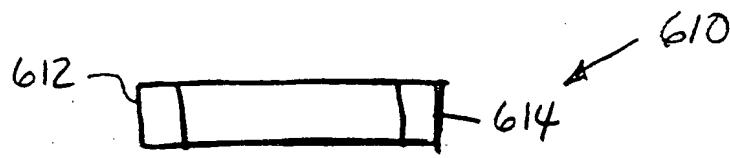
ATOM
Figure H1



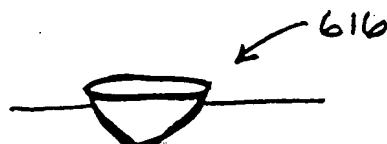
SOURCE
Figure H2



SINK
Figure H3



TRANSPORT
Figure H4

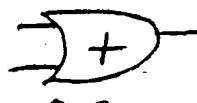


ASSIGNMENT
Figure H5



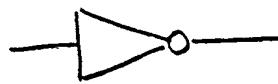
AND

Figure H6



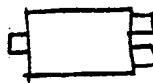
OR

Figure H7



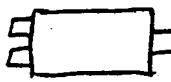
INVERT

Figure H8



EXPOSER

Figure I1

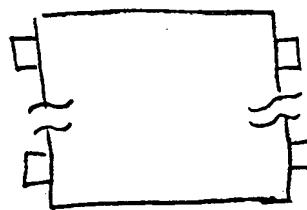


COLLECTOR

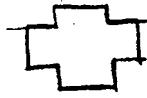
Figure I2



VARIANT SELECTOR
Figure I3



COMPOSITE OBJECT
Figure I4



TRANSPORT JUNCTION
Figure I5

Figure J-1

Menu Commands



Figure J-2

File Menu

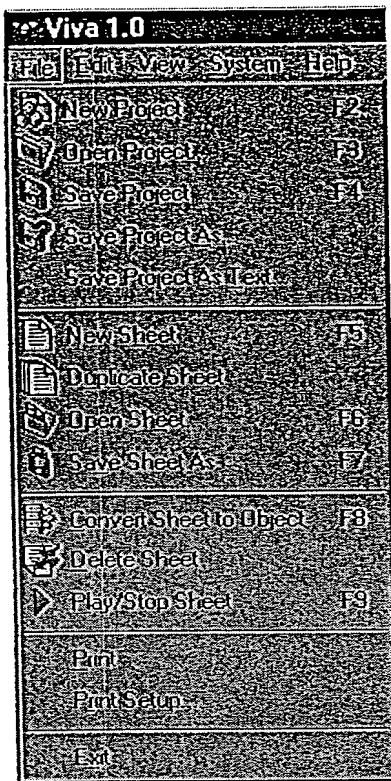
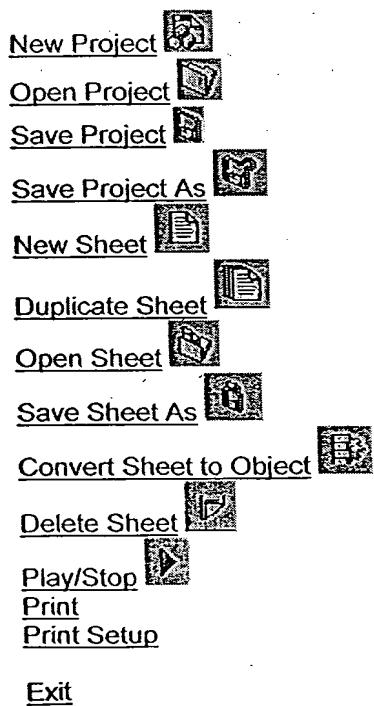


Figure J-3



Quits VIVA.

Figure J-4

New Project Command

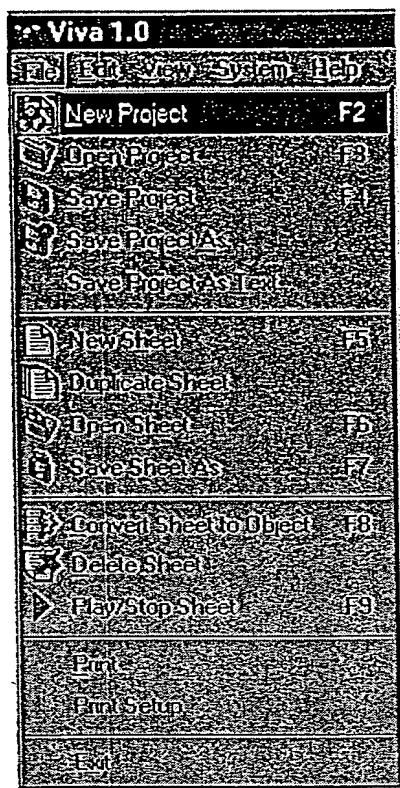


Figure J-5

Open Project Command

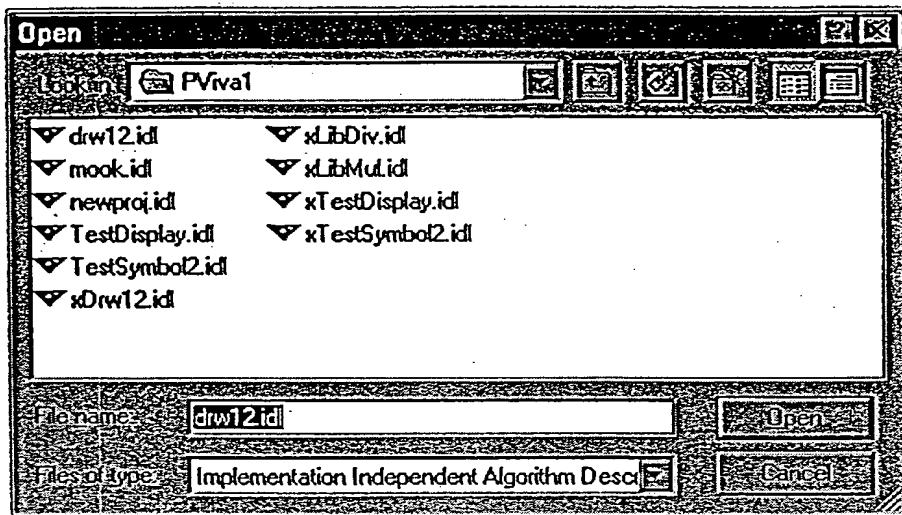


Figure J-6

Save Project Command

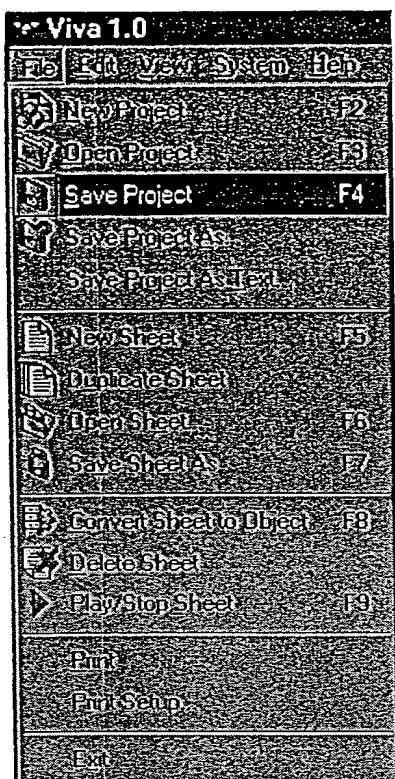


Figure J-7

Save Project As Command

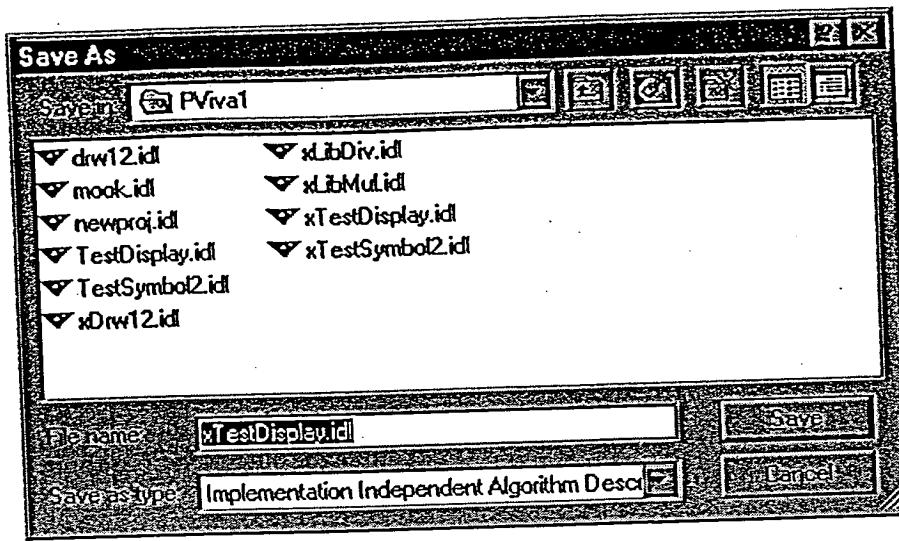


Figure J-8

New Sheet Command

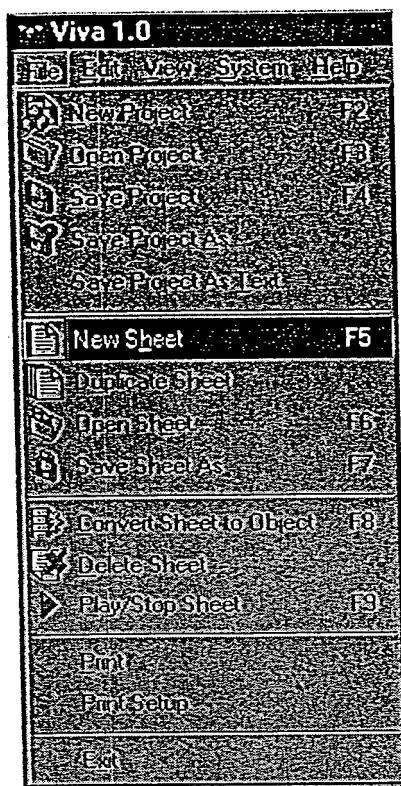


Figure J-9

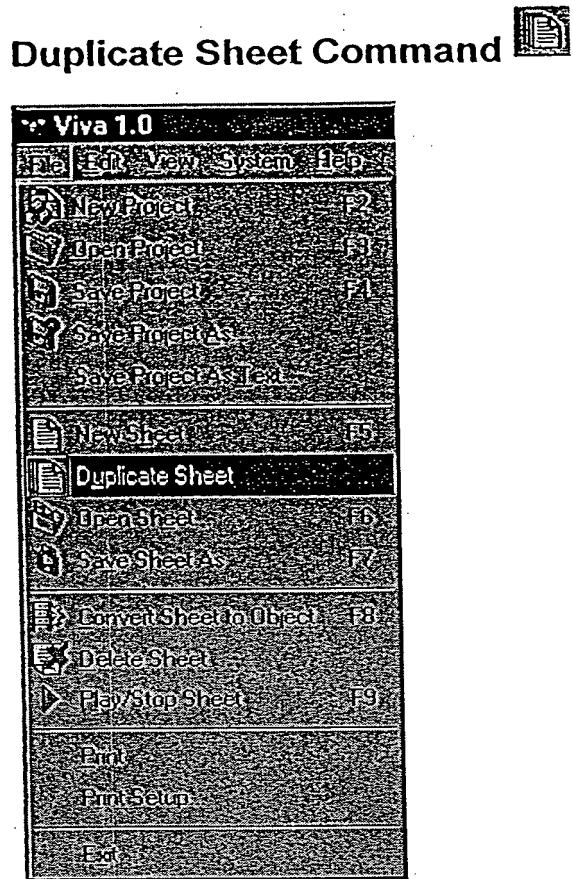


Figure J-10

Open Sheet Command

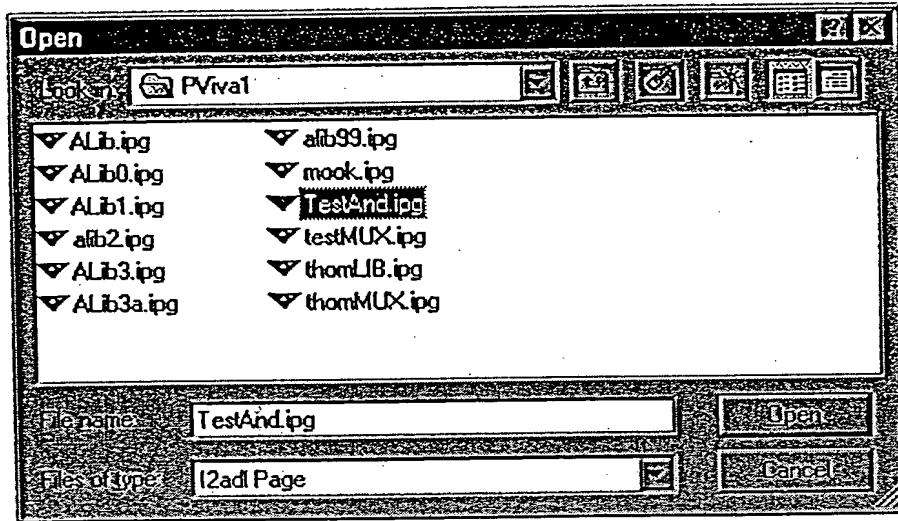


Figure J-11

Save Sheet As Command

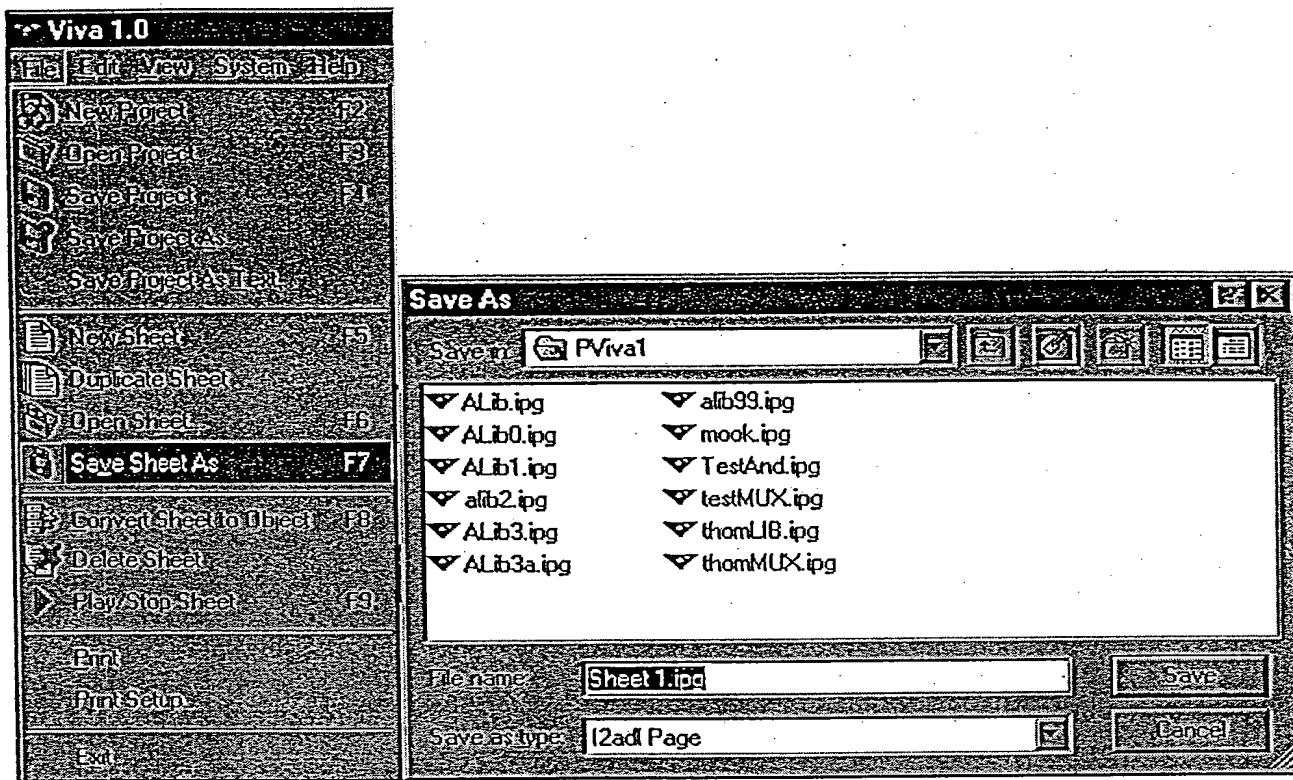


Figure J-12

Convert Sheet To Object Command

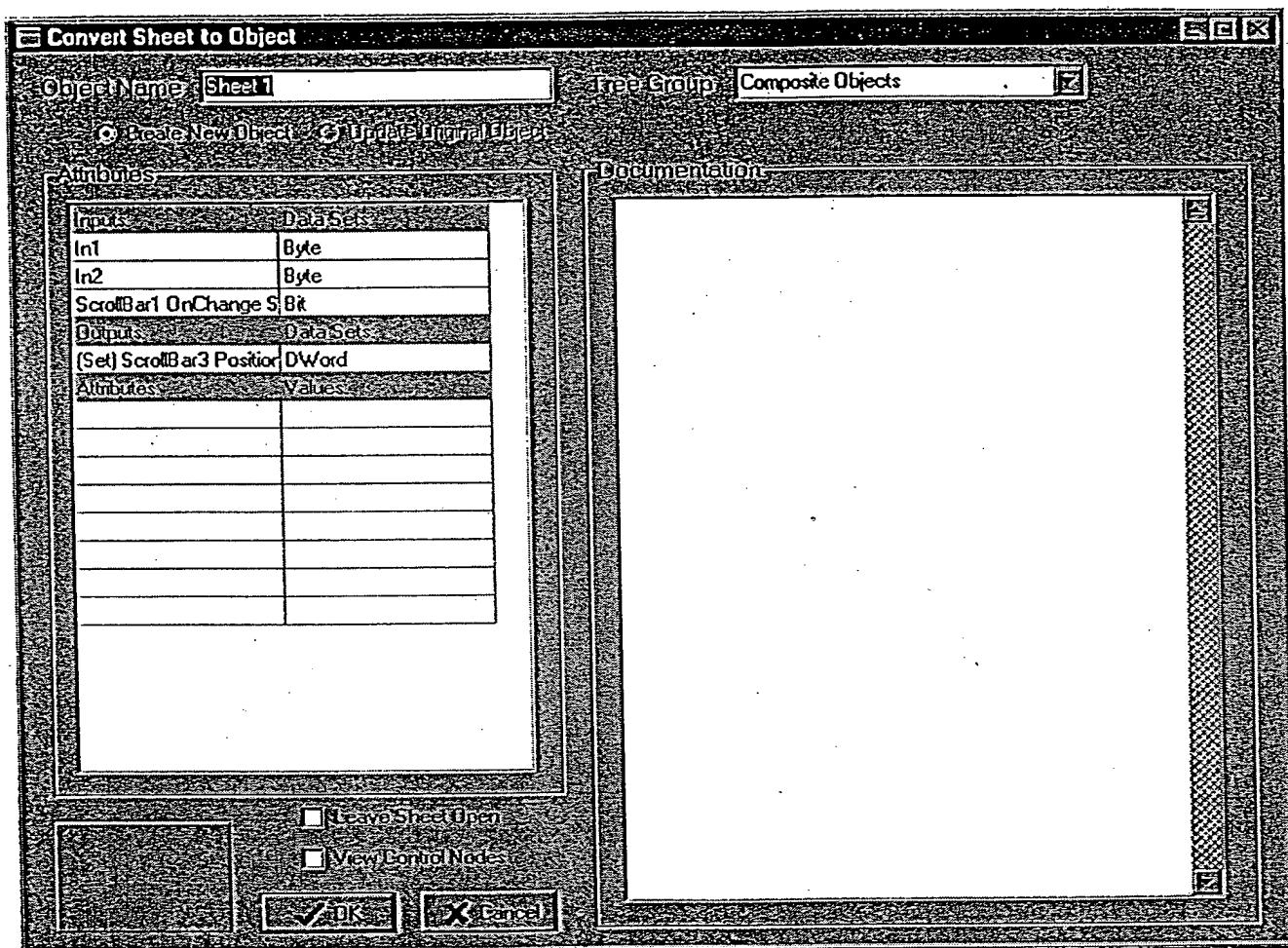


Figure J-13

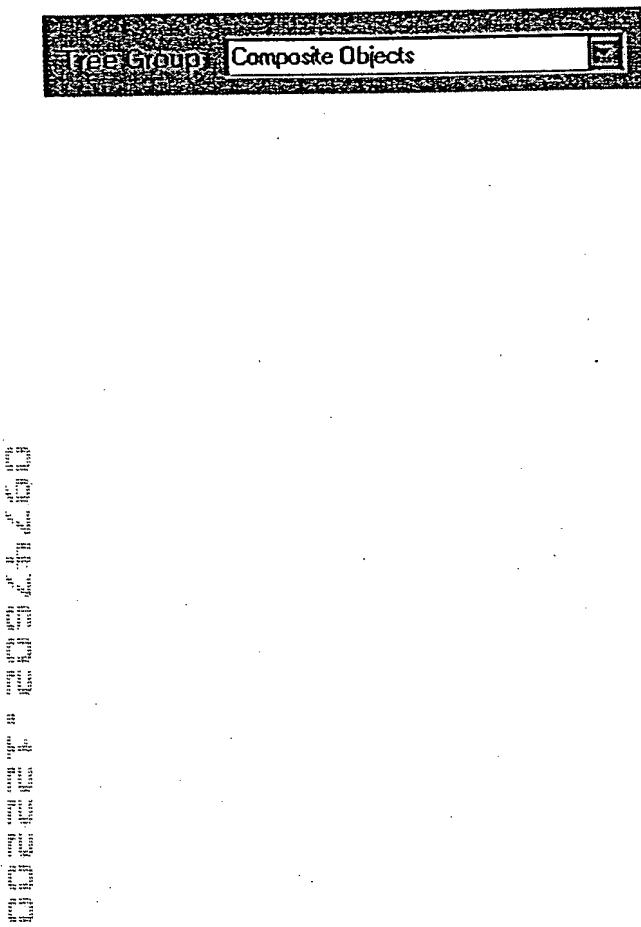


Figure J-14

Delete Sheet Command

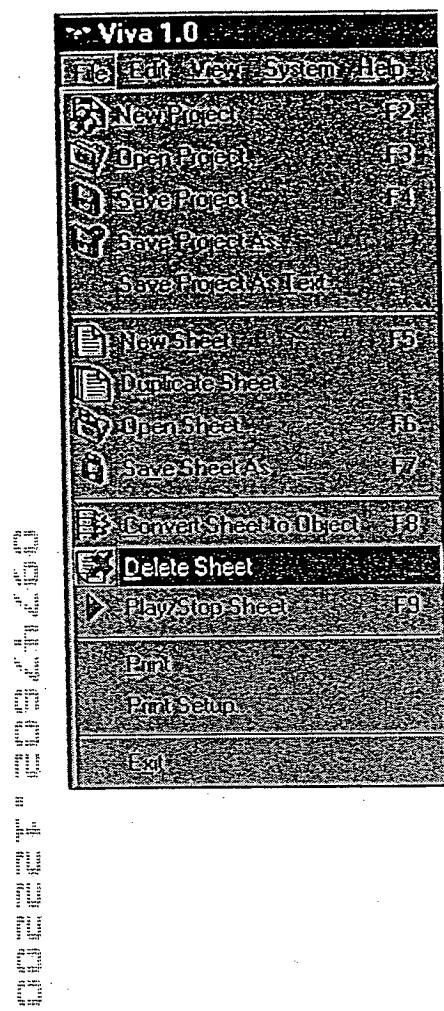


Figure J-15

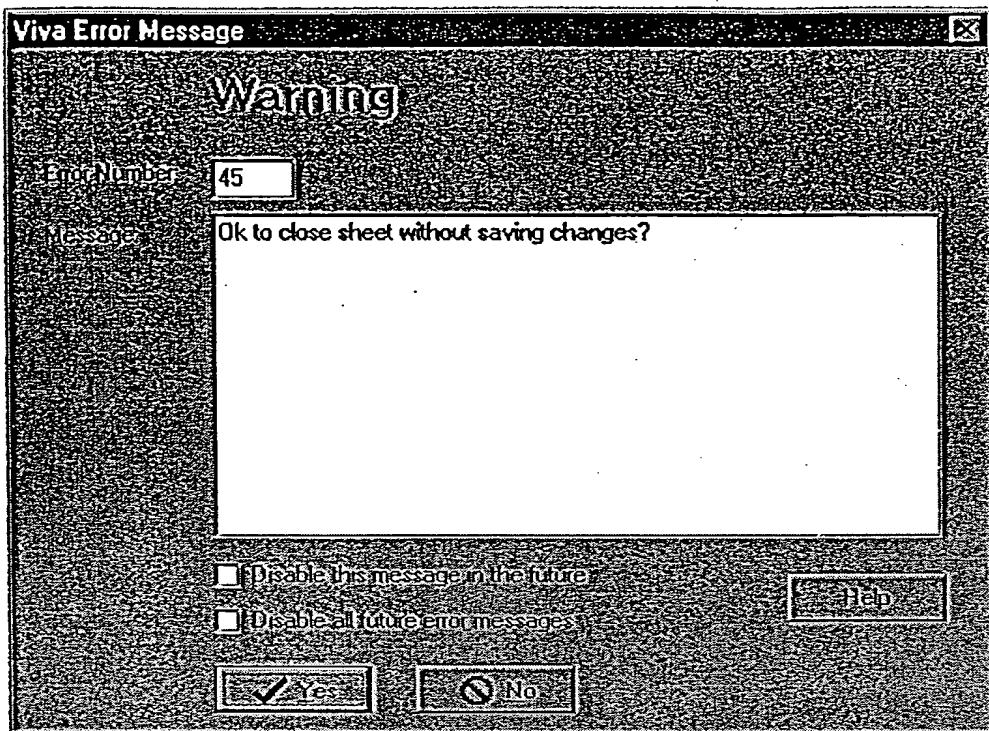


Figure J-16

Run Behavior Page

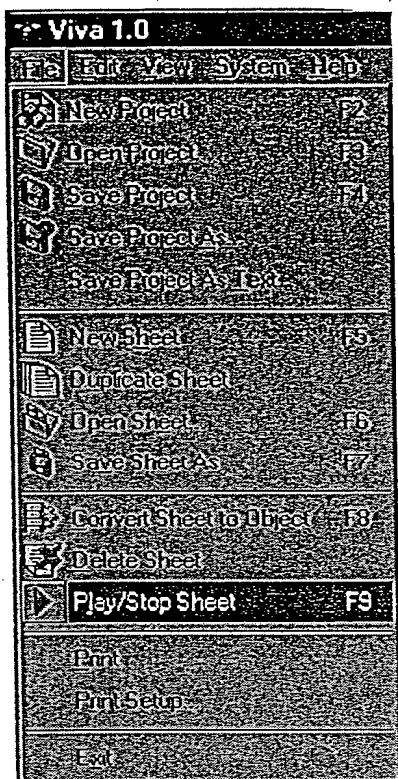


Figure J-17

Print Command

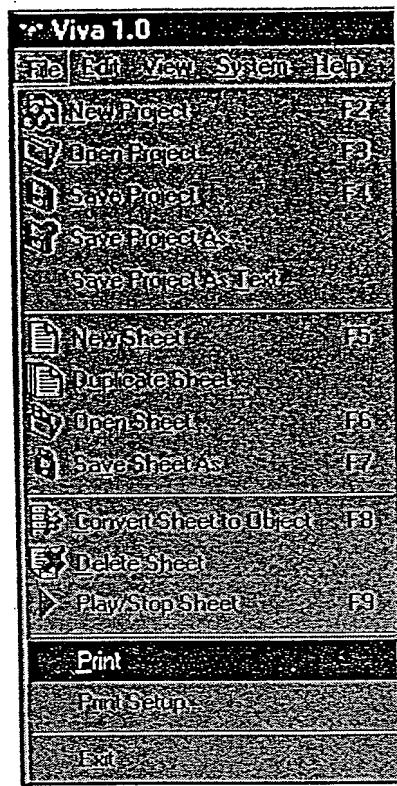


Figure J-18

Print Setup Command

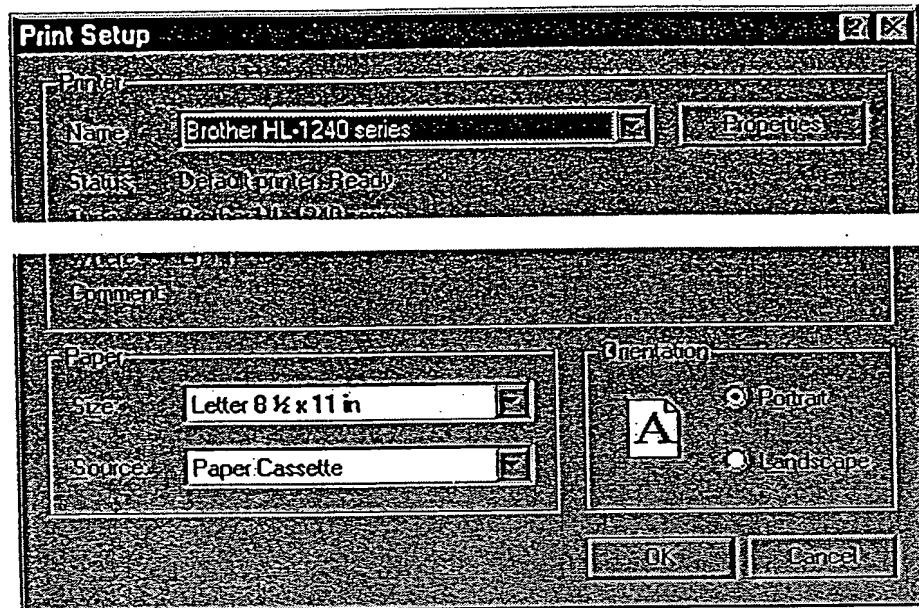


Figure J-19

Exit

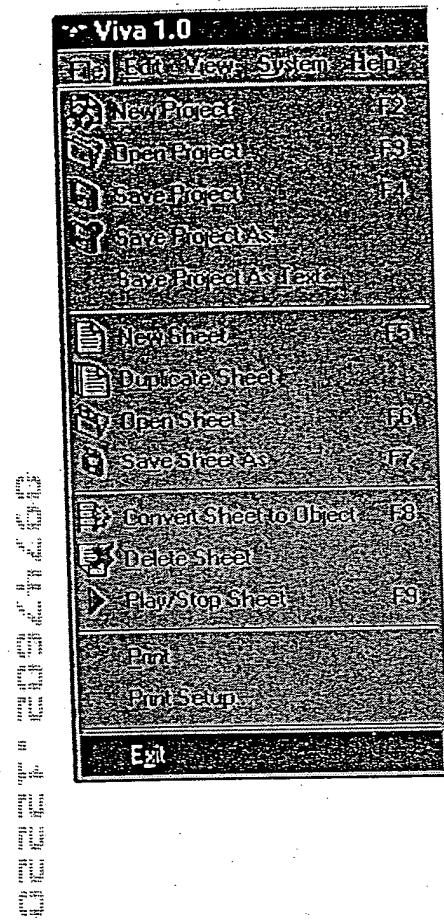


Figure J-20

Edit Menu

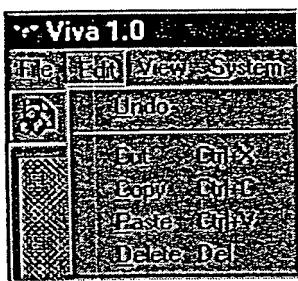
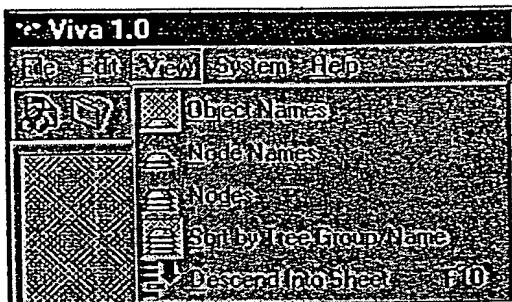


Figure J-21

View Menu



[View Object Names](#)

 Displays the object name above each object.

[View Node Names](#)

 Displays each node name instead of each node's icon.

[View Nodes](#)

 Displays node colors on Transports. (Node colors correspond to data types).

[Sort by Tree Group/Name](#)

 Sorts the Object Tree in alphabetical order.

[Descend into Sheet](#)

 This displays the Behavior Page of the selected object. (This feature is also available by double-clicking on the object.)

Figure J-22

View Object Names

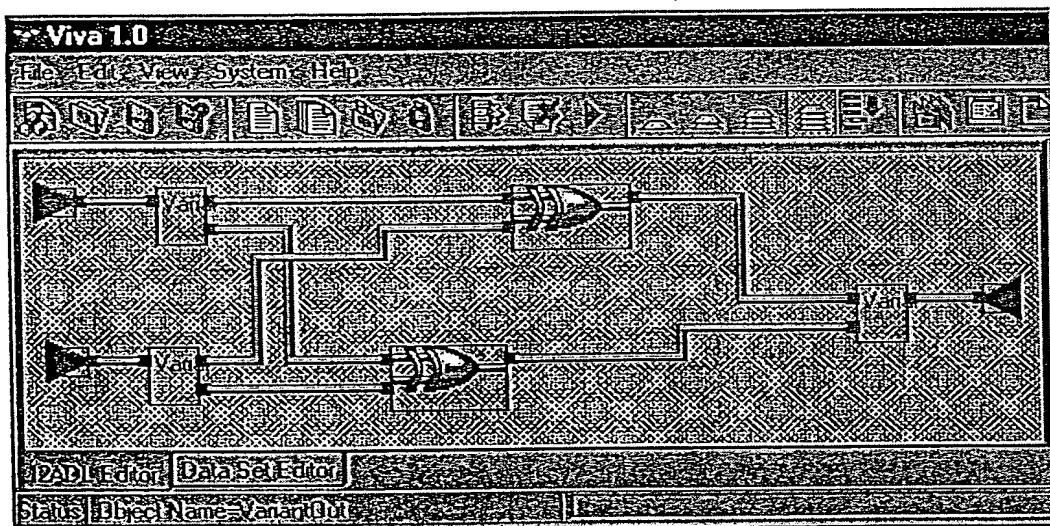
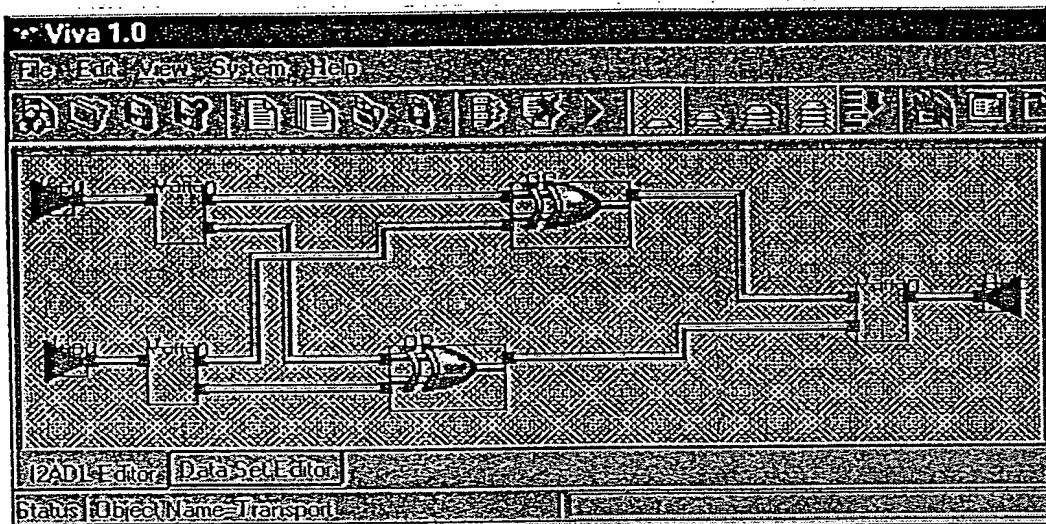


Figure J-23

View Node Names

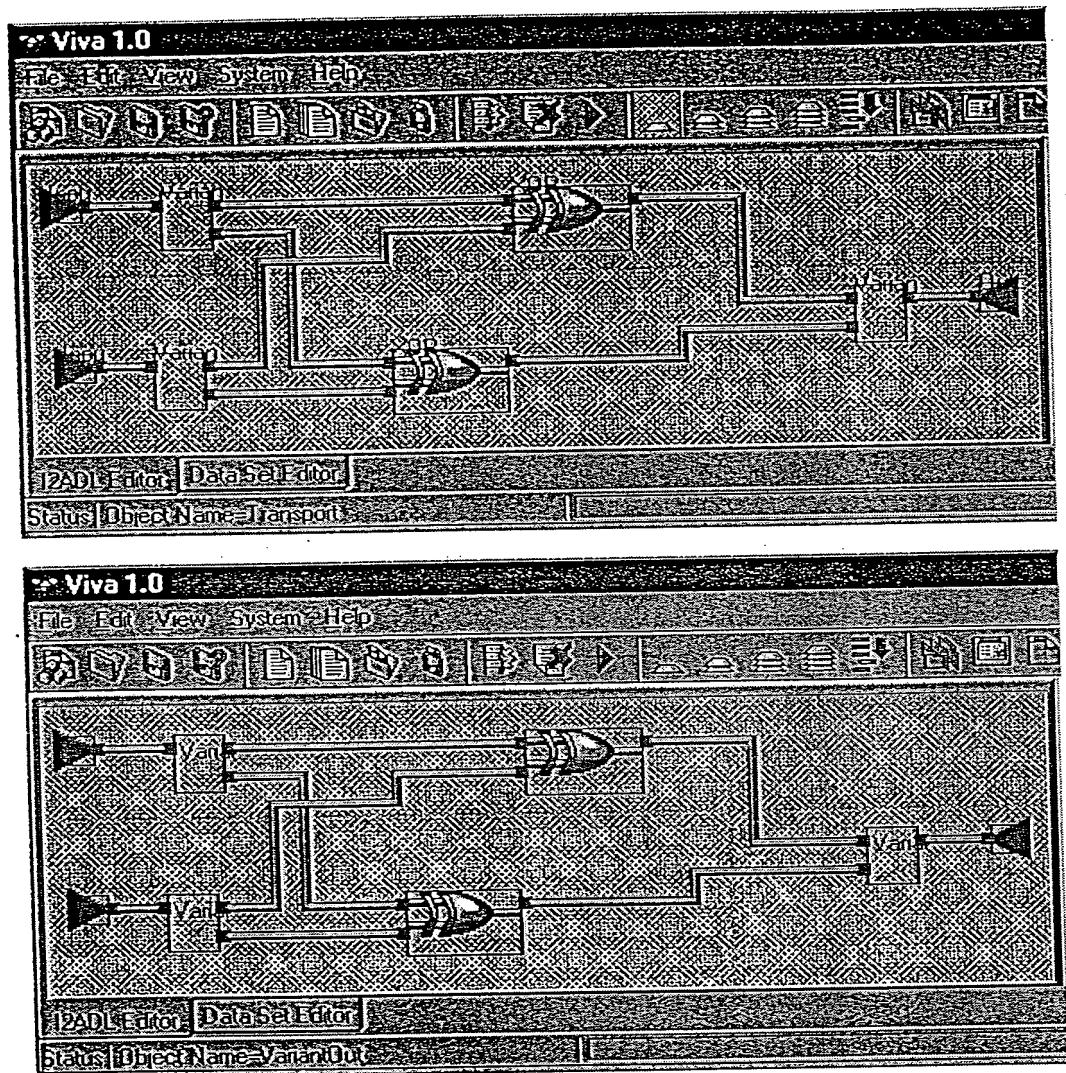


Figure J-24

View Nodes 

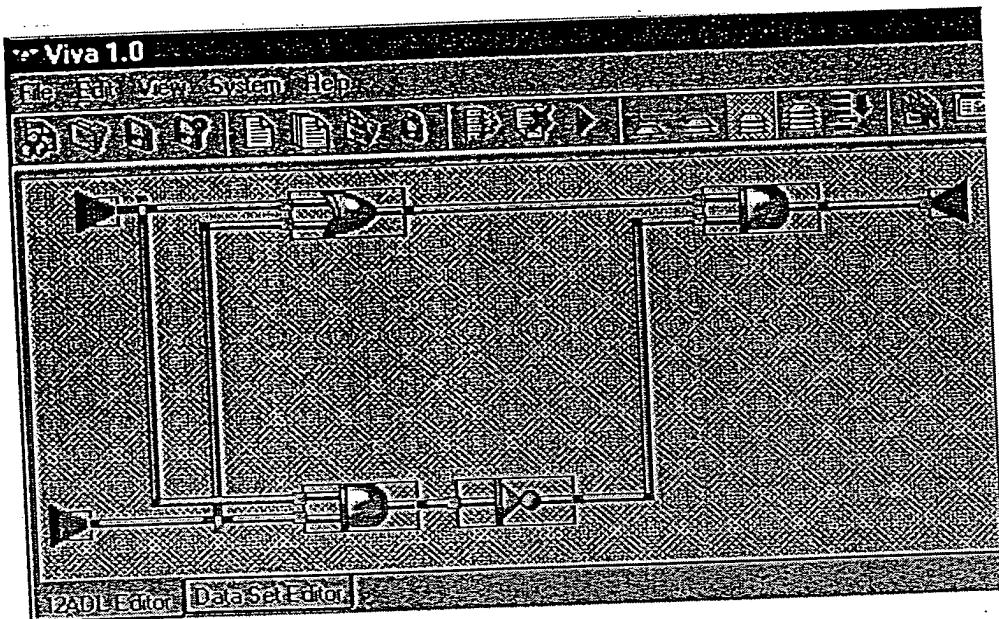


Figure J-25

Sort by Tree Group/Name

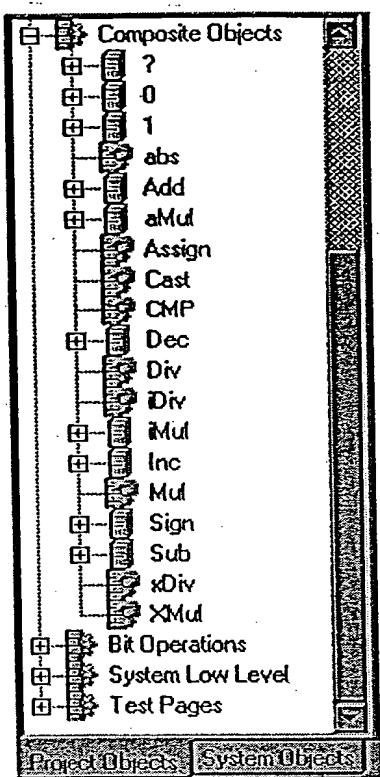


Figure J-26

Descend Into Sheet

The Behavior Page of a VIVA Module can usually be displayed by either double clicking on the object, or by clicking on the descend icon  after the Module has been selected using a left mouse click.

The following is the Behavior Page for an Exclusive OR Module.

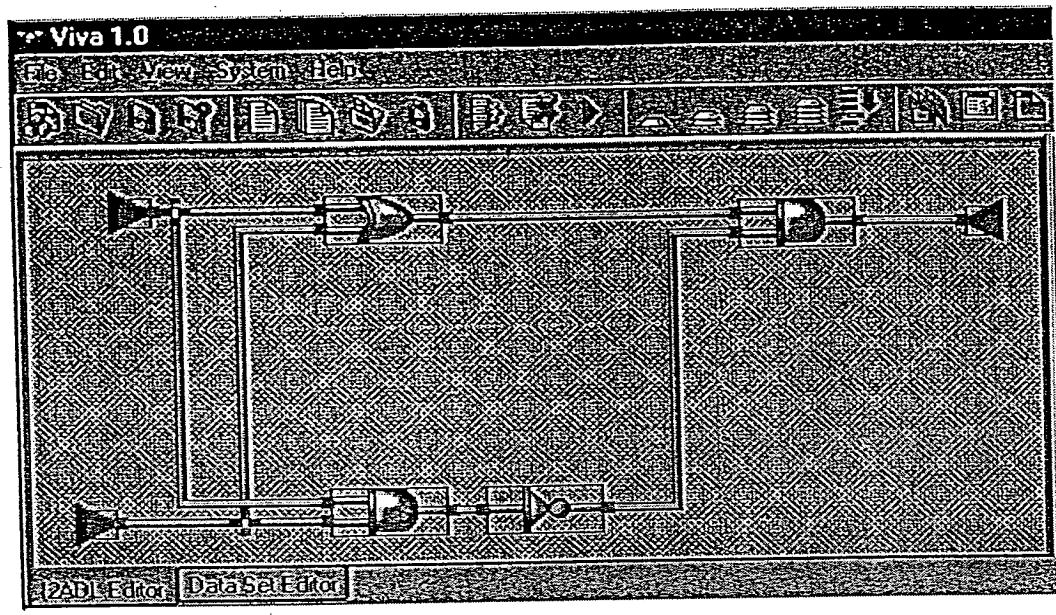
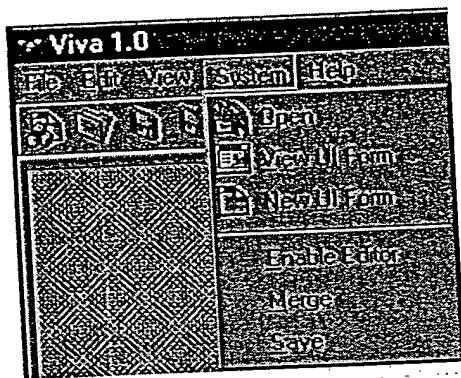


Figure J-27

System Menu



Open System



Select the target system (X86 or Floating Point Gate Array).

Figure J-28

Open System

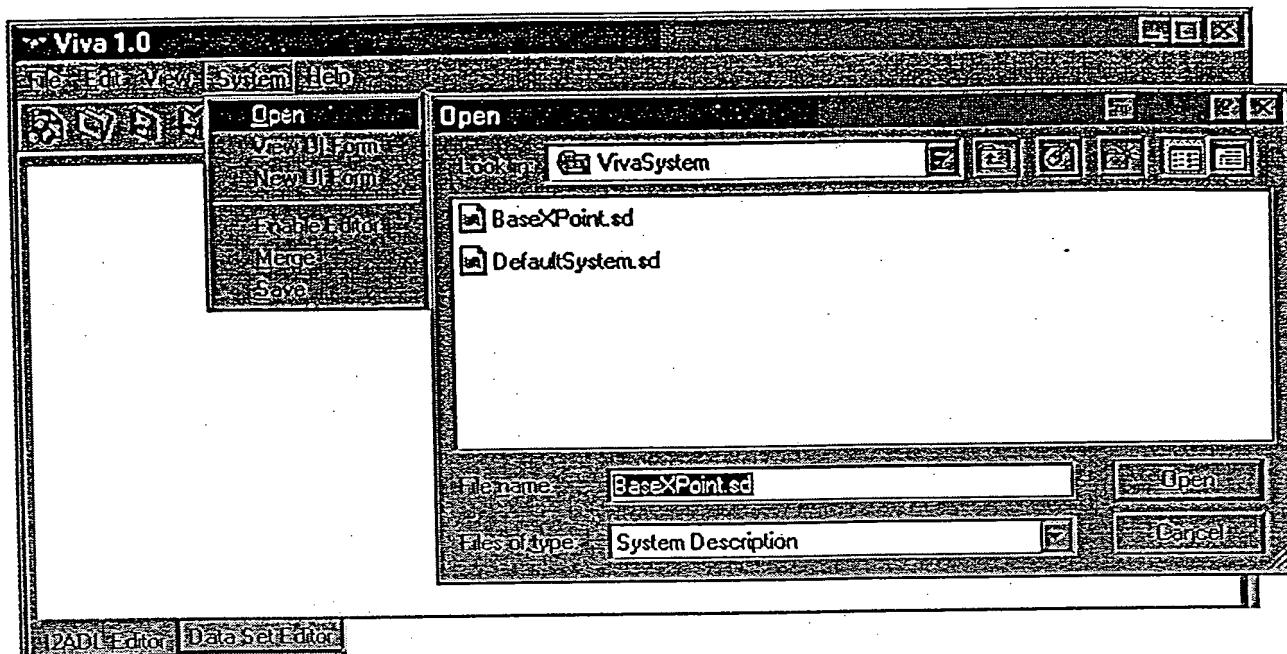


Figure J-29

VIEW UI Form

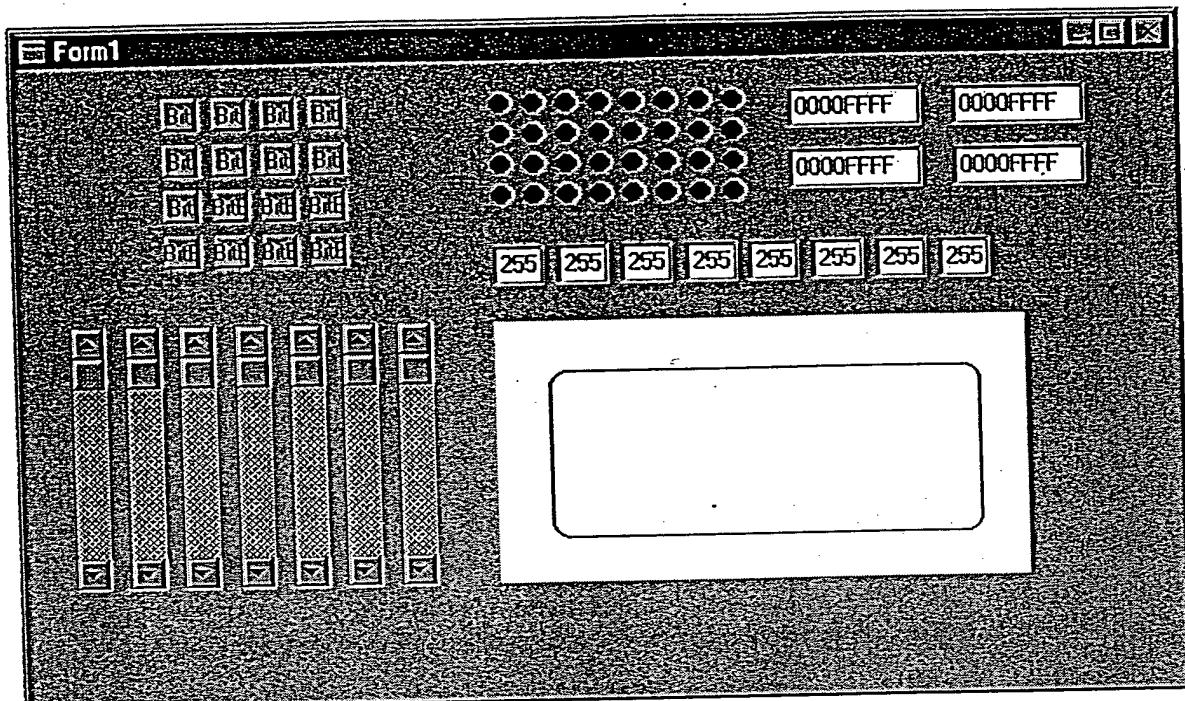


Figure J-30

NEW UI Form

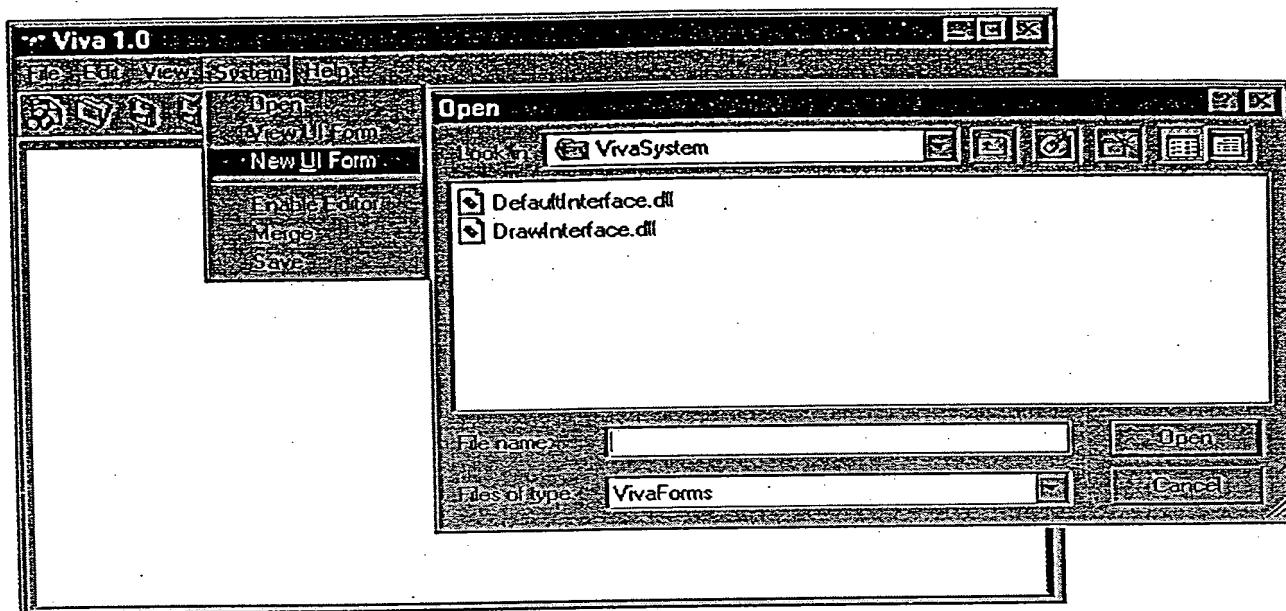


Figure J-31

Help Menu

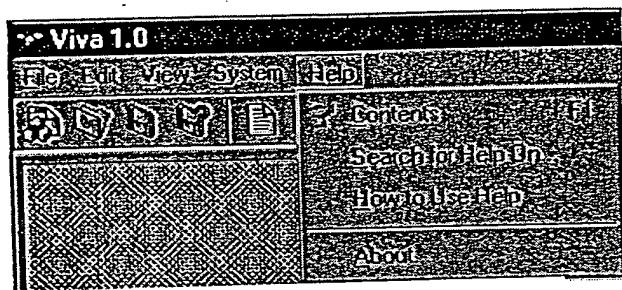


Figure J-32

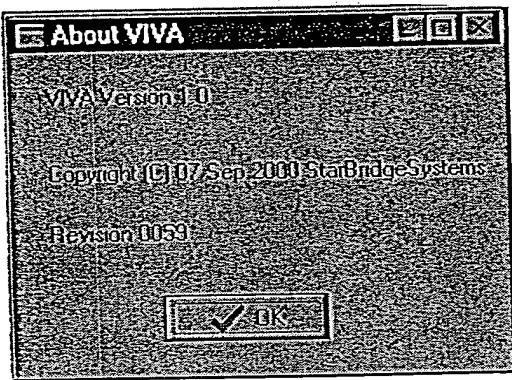


Figure J-33

ToolBar Controls

The Graphical User Interface of VIVA was designed to allow you to specify the desired behavior of the target computer environment.

File Commands

 <u>New Project</u>	Clears all objects, pages, and Modules.
 <u>Open Project</u>	Load and display a VIVA project.
 <u>Save Project</u>	Saves the current project.
 <u>Save Project As</u>	Saves and renames the current project projects.
 <u>New Sheet</u>	Creates a new blank sheet.
 <u>Duplicate Sheet</u>	Duplicates the current sheet.
 <u>Open Sheet</u>	Loads a sheet from a file.
 <u>Save Sheet As</u>	Saves current sheet as a file.
 <u>Convert Sheet</u>	Captures sheet behavior as a VIVA Module.
 <u>Delete Sheet</u>	Erases and deletes current Behavior Page.
 <u>Run/Stop</u>	Executes the behavior on the displayed Behavior Page.

View Details

 <u>View Object Names</u>	The names of the objects are displayed above the objects.
 <u>View Node Names</u>	The names of the nodes of the objects are displayed instead of the object's icon.
 <u>View Nodes</u>	The node colors are displayed on <u>Transports</u> . (Node colors correspond to data types.)
 <u>Sort by Tree Group/Name</u>	Sorts the Object Tree in alphabetical order.
 <u>Descend into Sheet</u>	Display the Behavior Page of the selected object (Also available by

Figure J-33 (con't)

double-clicking on the object.)



Open System

Selects the target system.



View UI Form

Displays the User Interface Form.



New UI Form

Allows you to Select a new User Interface Form.

Figure J-34

DataSet Editor

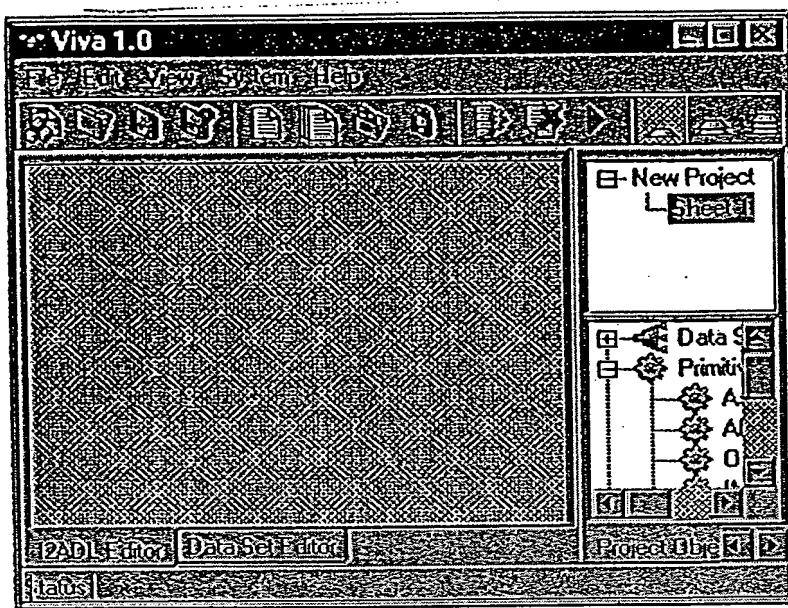
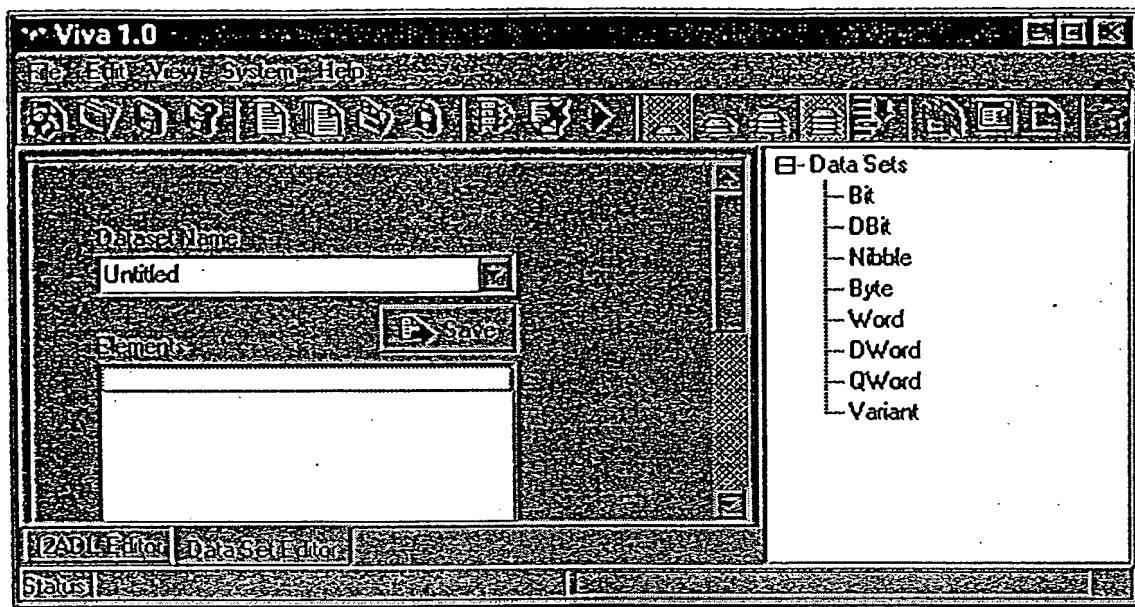


Figure J-35



When done with defining the new data set, you press the Save Button



Figure J-36

Edit Attributes Dialog

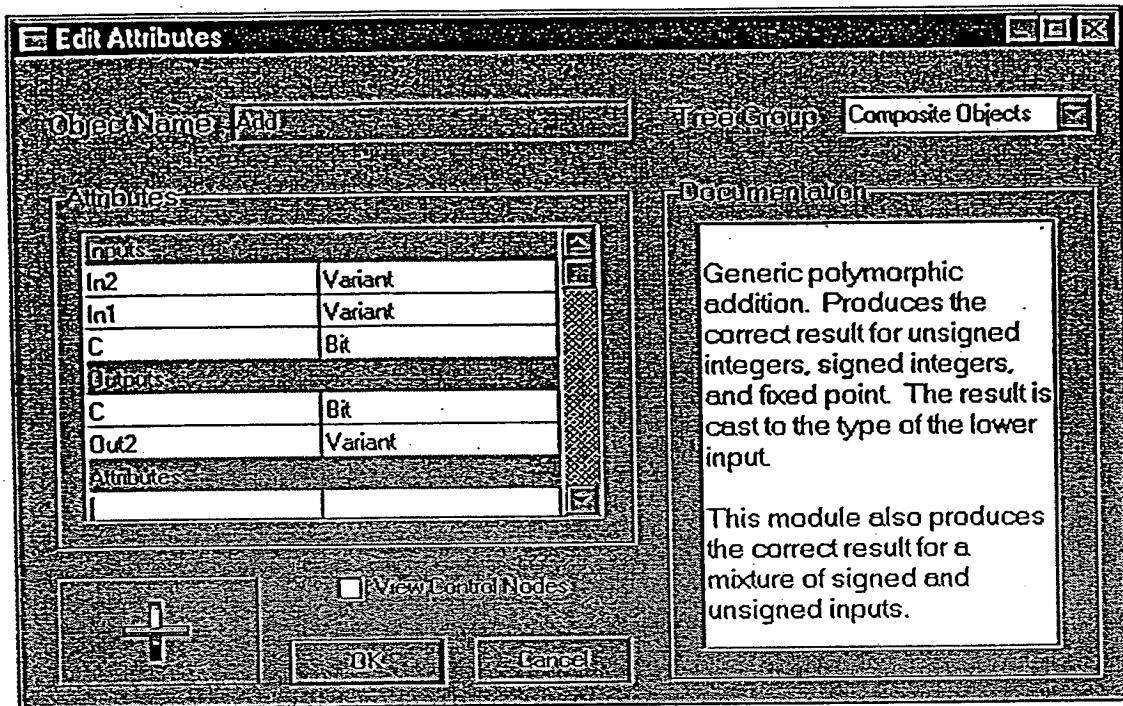


Figure J-37

Constructing VIVA Modules

Figure J-37-1

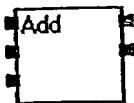


Figure J-37-2

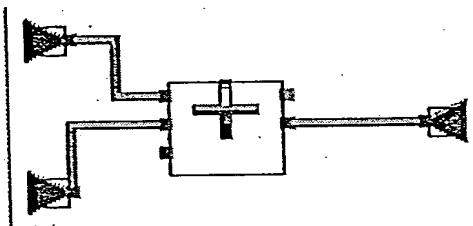


Figure J-38

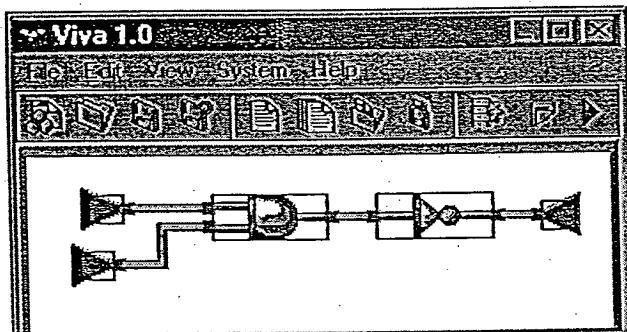
Behavior Pages

Figure J-38-1

object with a left mouse click then click on the descend icon 

You execute a Behavior Page by clicking on the Run/Stop button  on the ToolBar:

Figure J-38-2



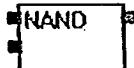
You make the connections or transports between the inputs, outputs, and intervening Modules by clicking on one node, moving the mouse to the connecting node, and then clicking again. (See Connecting Transports). If you have a preferred path, you can click the mouse at various points along the desired path.

Junctions are used when it is necessary to split a signal.

Figure J-38-3

Convert Sheet to Object command from the File Menu, or select the ToolBar icon, 

Figure J-38-4



This Module may now be used to construct other behavior pages for Modules with more complex behavior.

Node labels for the inputs and outputs of the NAND Module are the same labels on the inputs and outputs of the Behavior Page.

Figure J-39

Connecting Transports

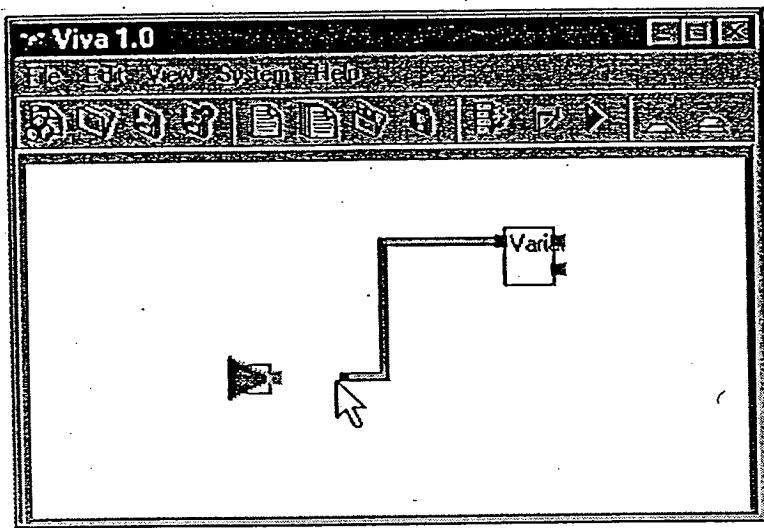


Figure J-40

Connecting Junctions

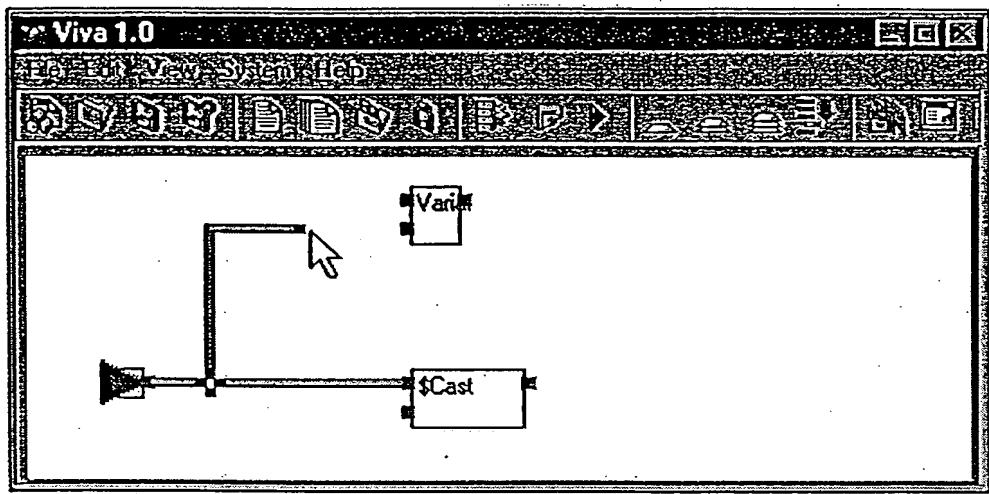


Figure J-41

Convert Sheet To Object Command

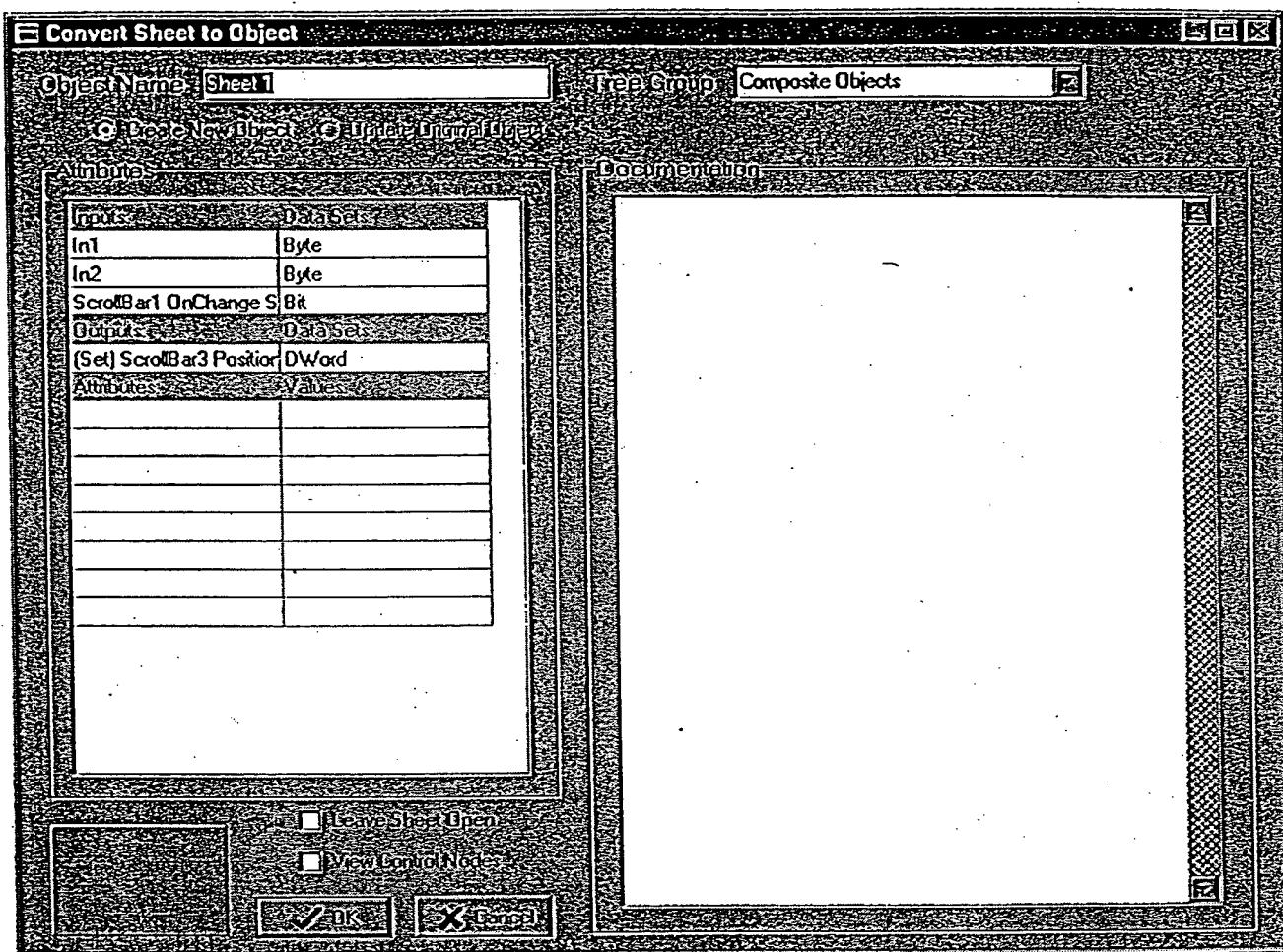


Figure J-42



Figure J-43

Object Trees

Figure J-44-1

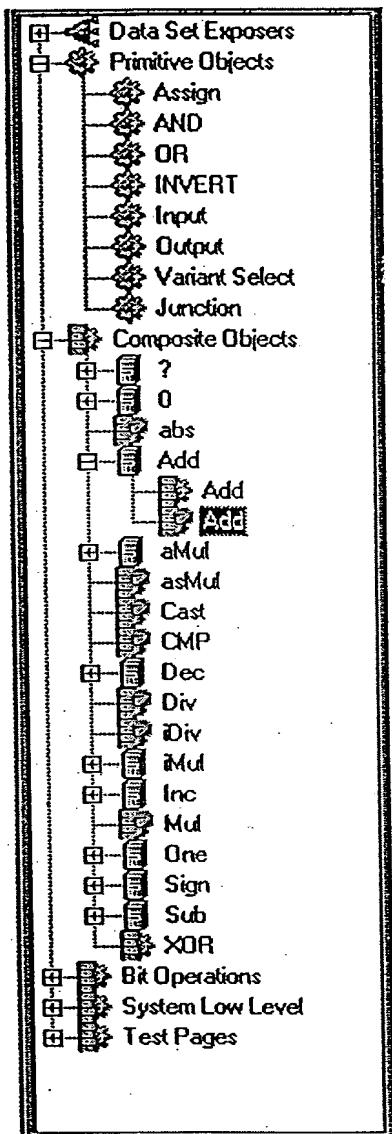


Figure J-44-2

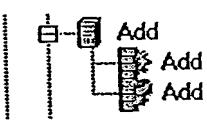


Figure J-45

Modifying an Input

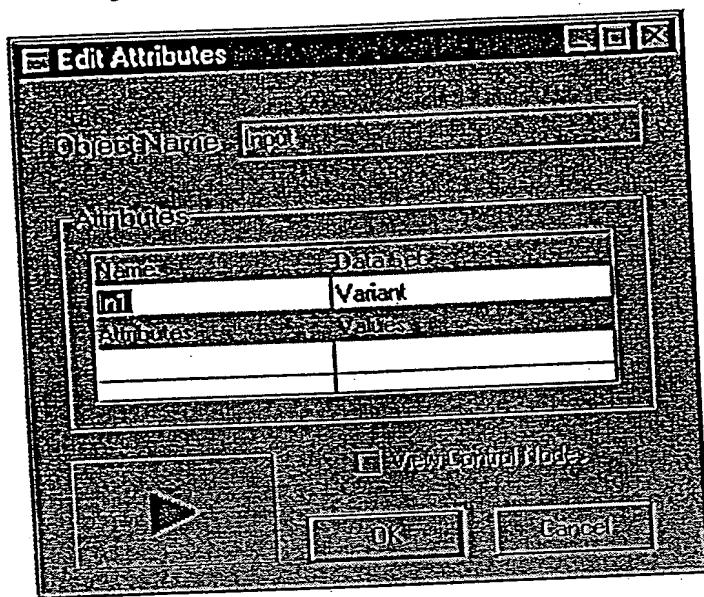


Figure J-46

Modifying an Output

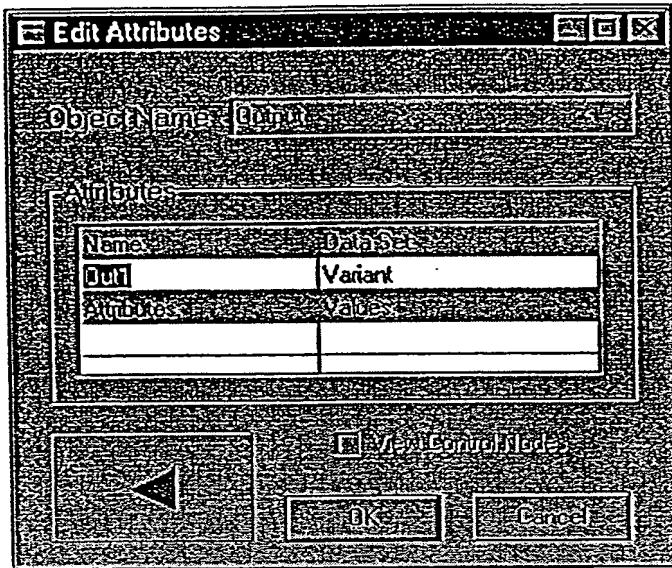


Figure J-47

VIVA Constants

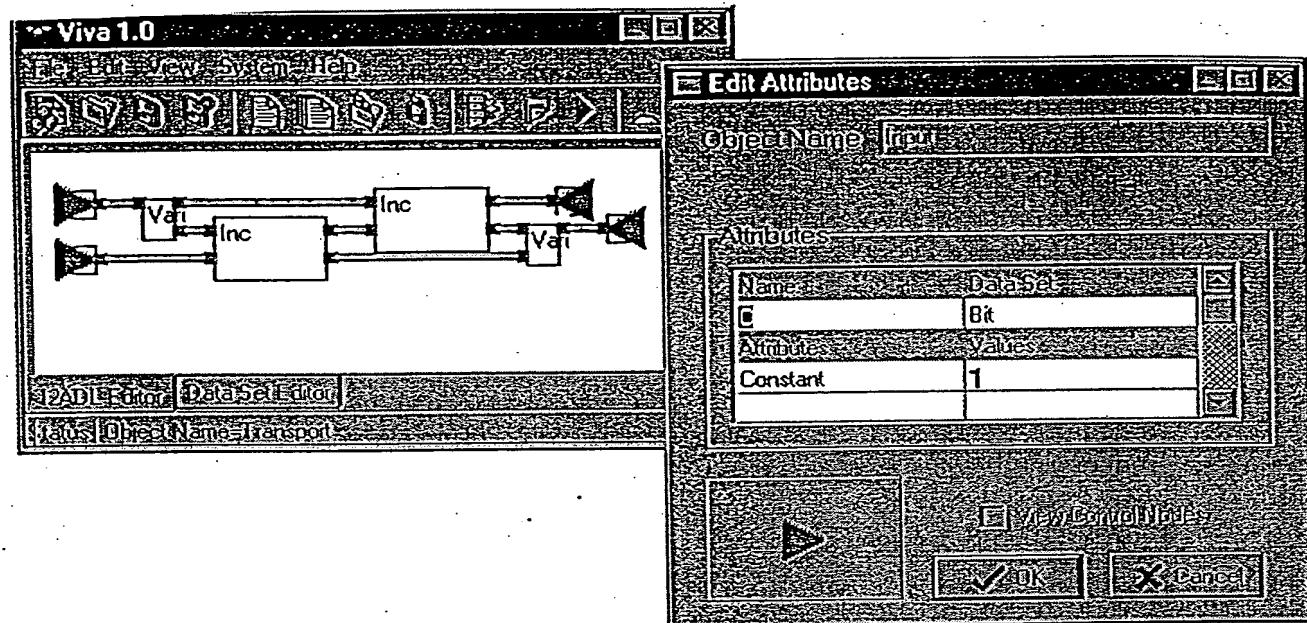


Figure J-48

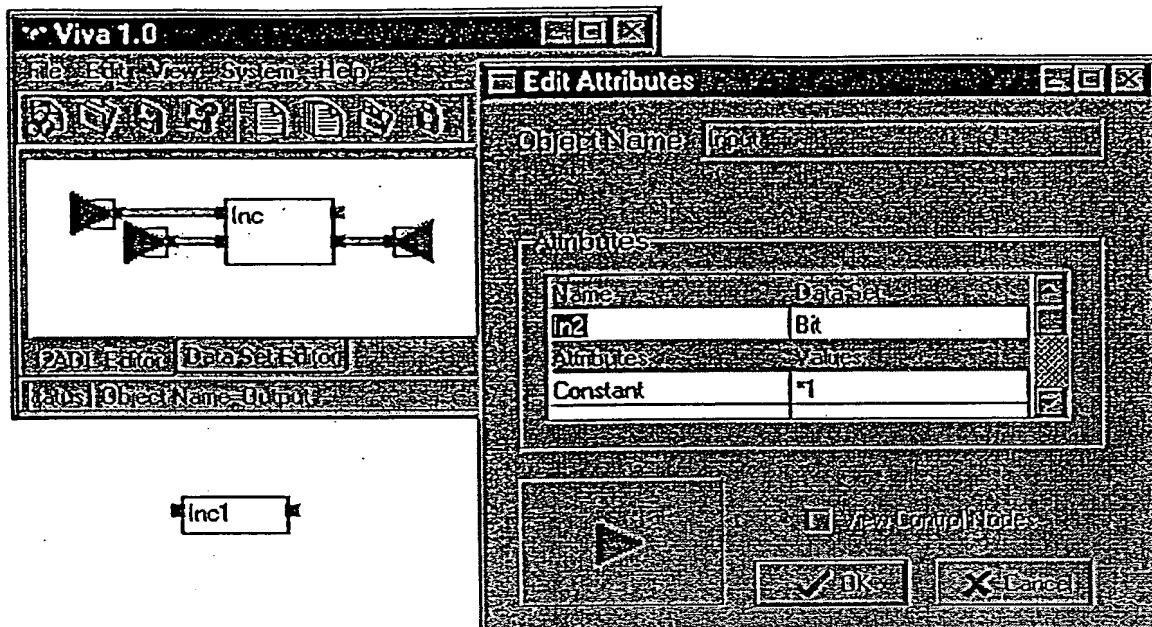
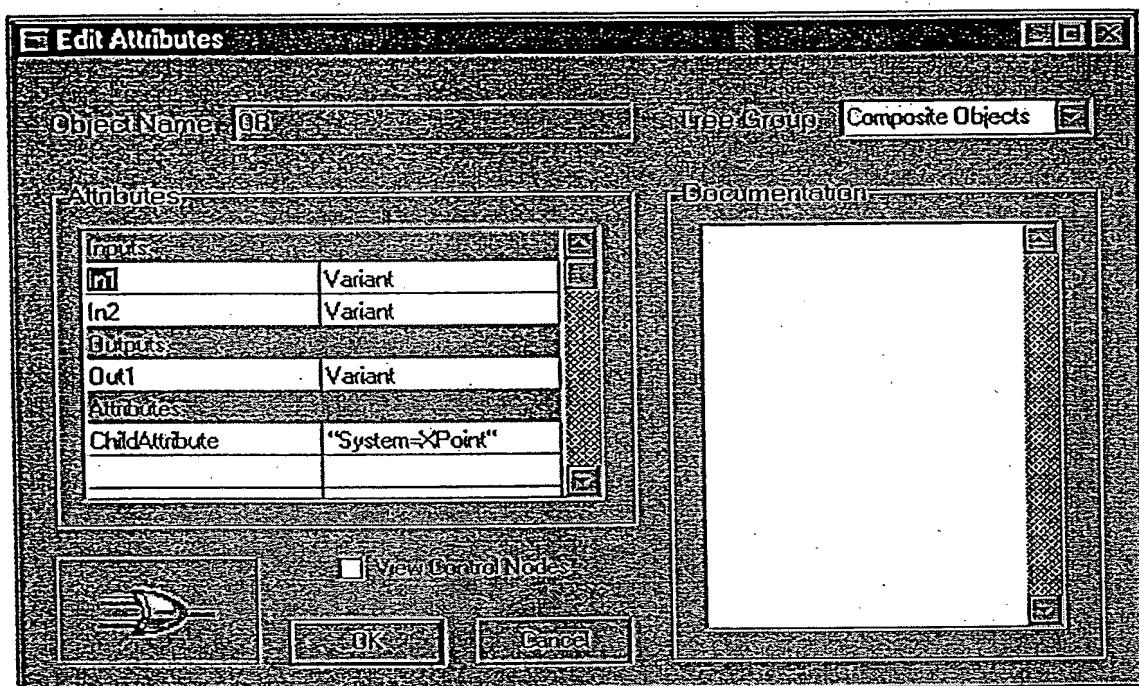


Figure J-49

Forcing GateWare Allocation



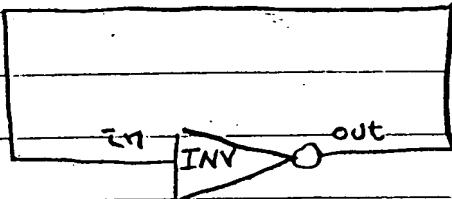


Figure K1
(Prior Art)

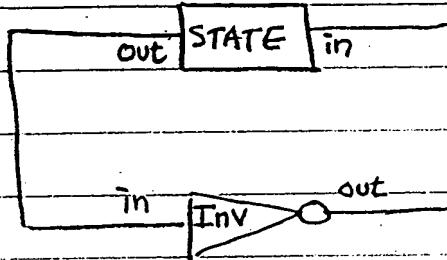


Figure K2
(Prior Art)

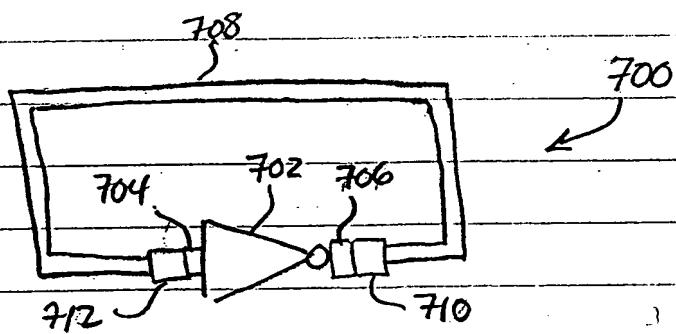


Figure K3

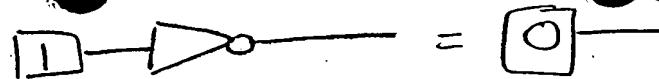


Figure L1

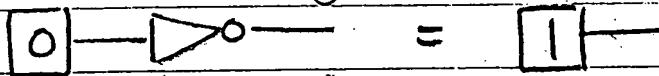


Figure L2

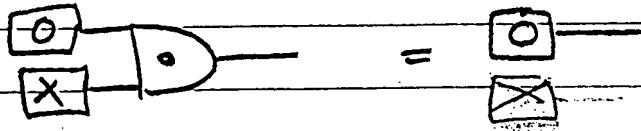


Figure L3

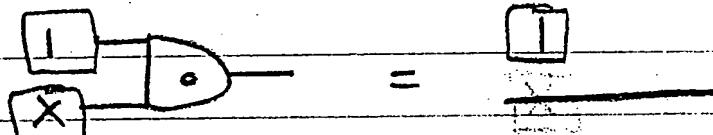


Figure L4

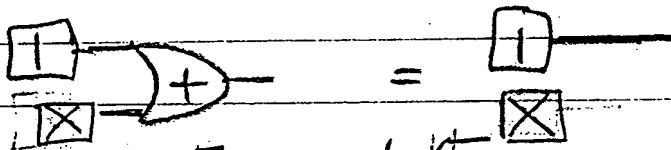


Figure L5

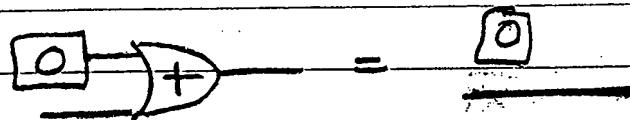


Figure L6

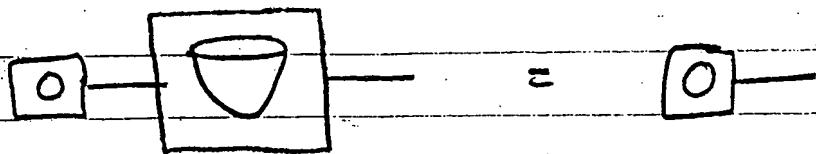


Figure L7

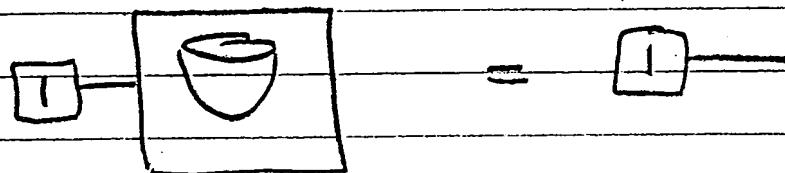


Figure L8

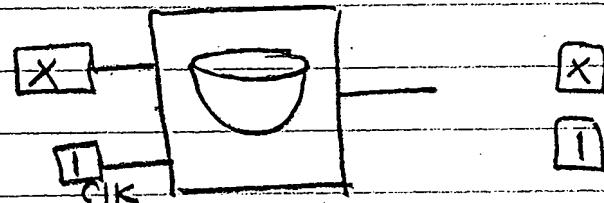


Figure L9

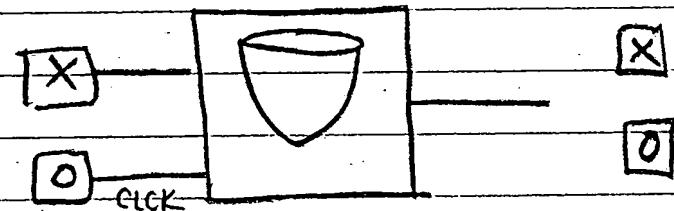


Figure L10

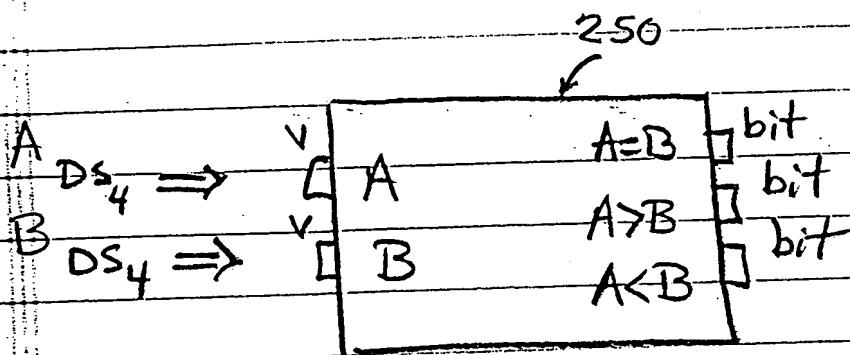


Figure L10

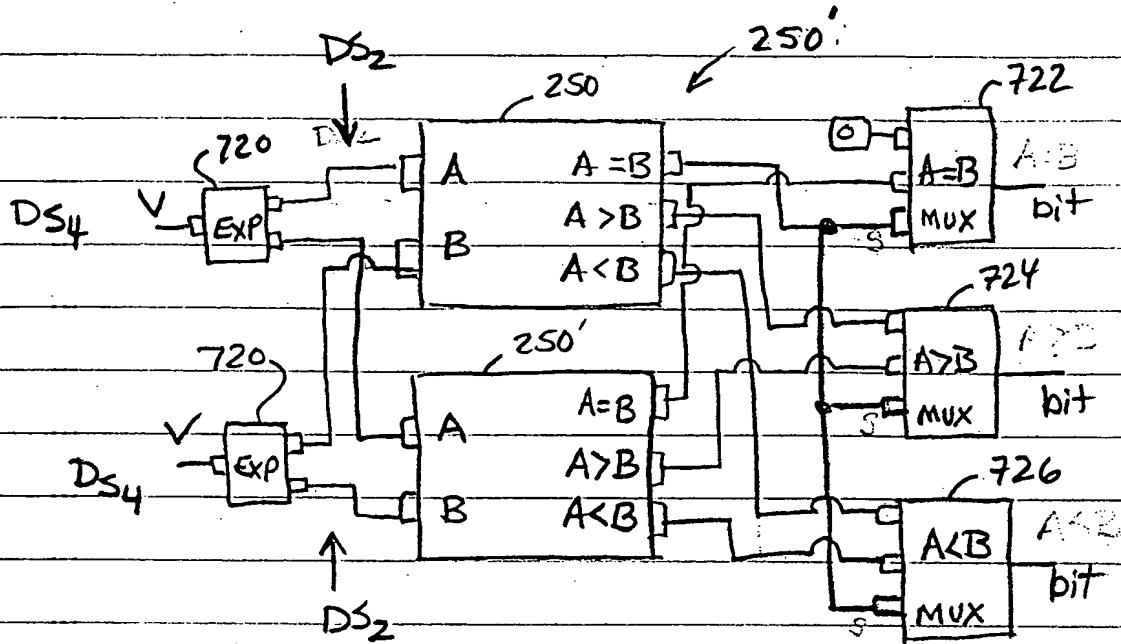


Figure L11

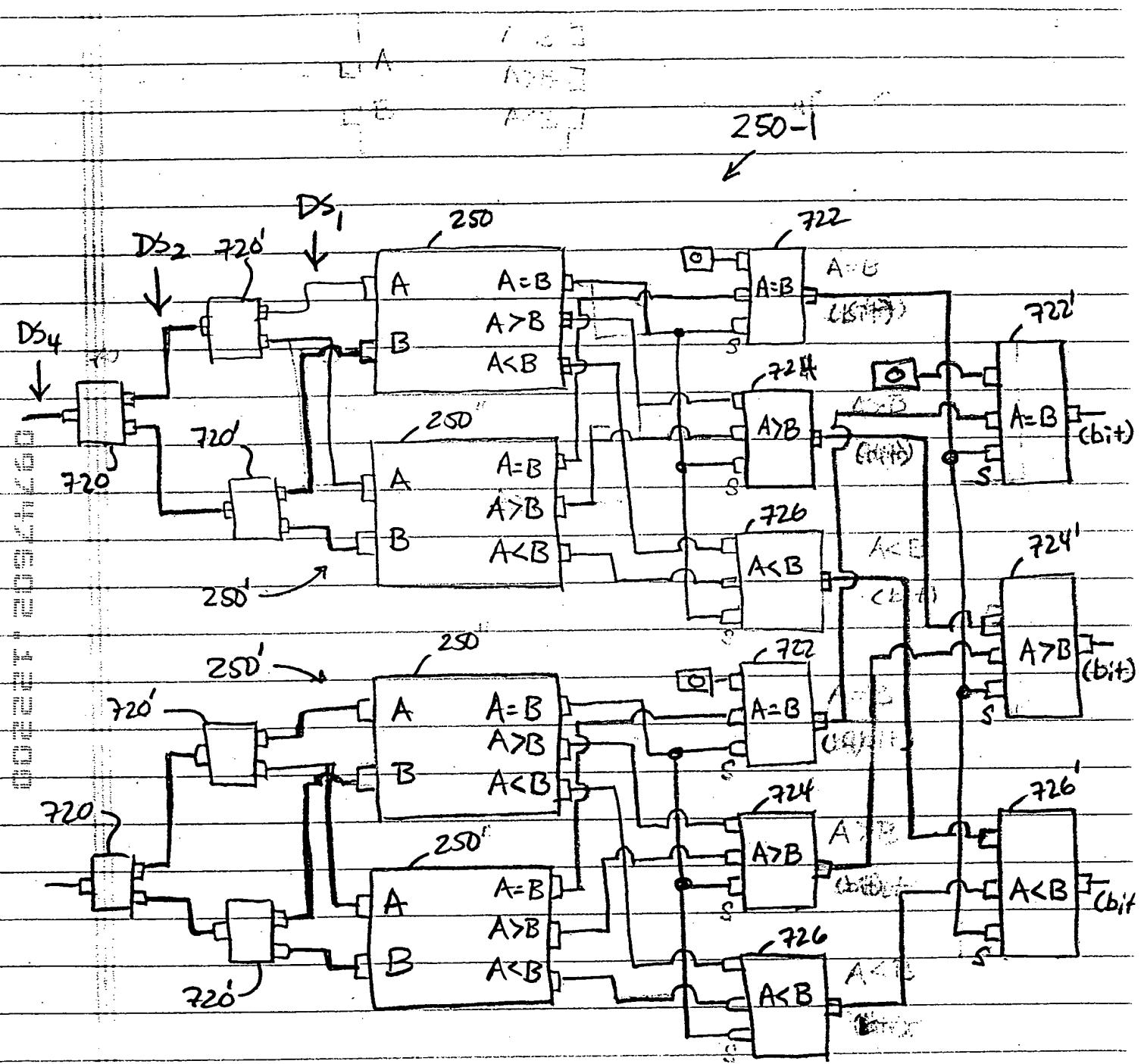


Figure L12

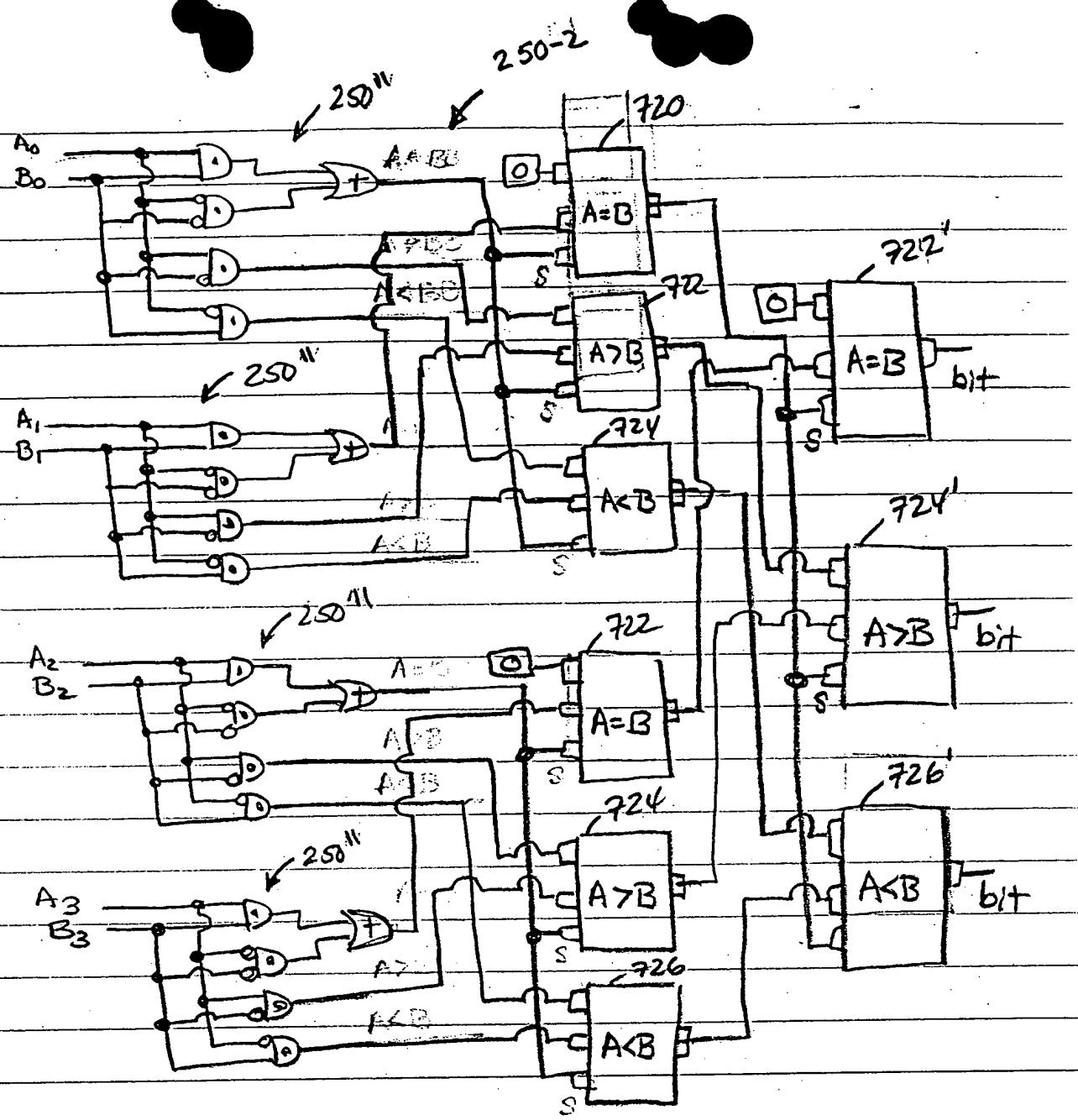


Figure L13

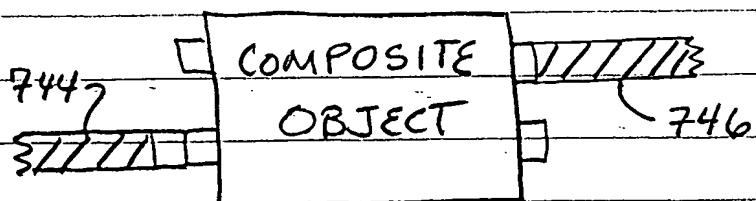


Figure M1

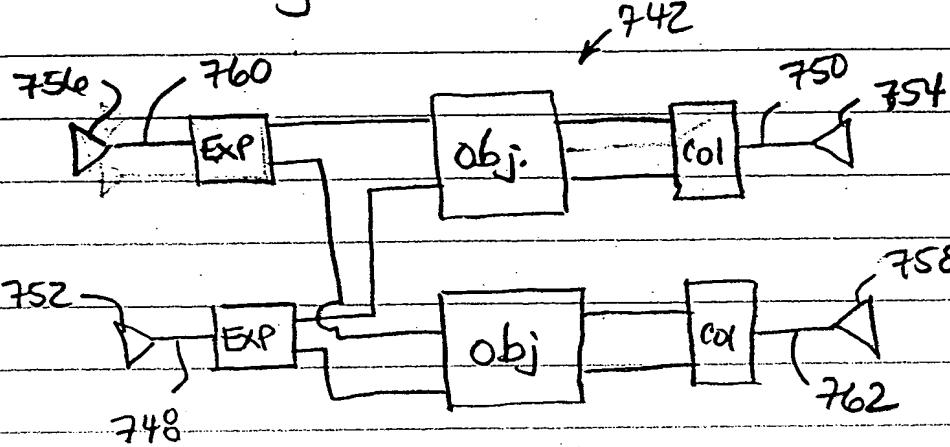


Figure M2

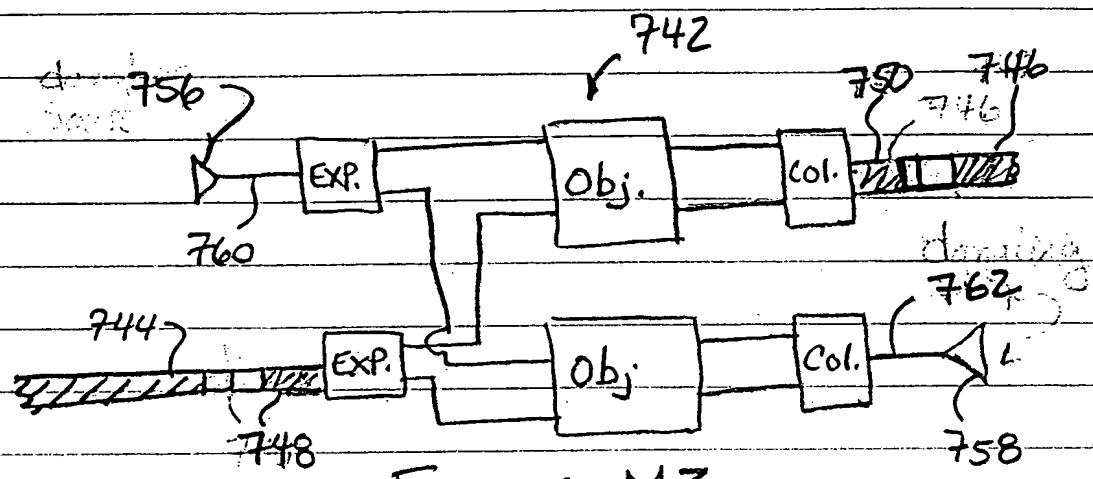


Figure M3

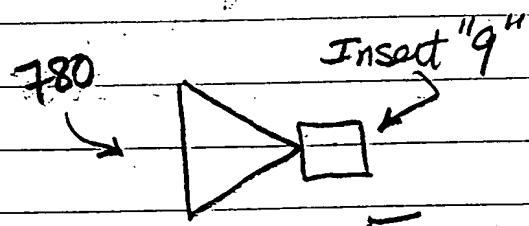


Figure N1

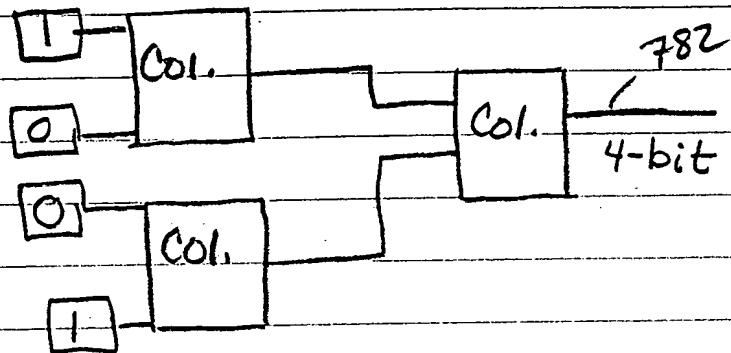


Figure N2

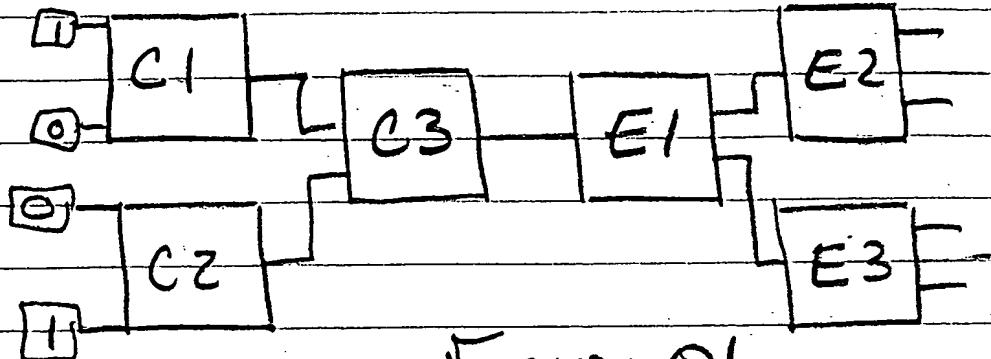


Figure O1

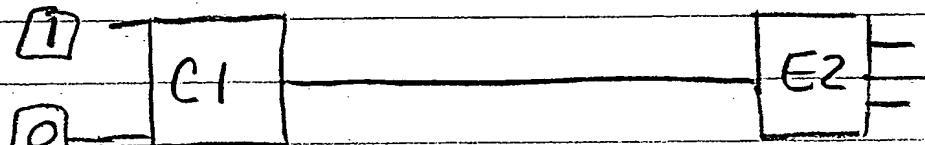


Figure O2

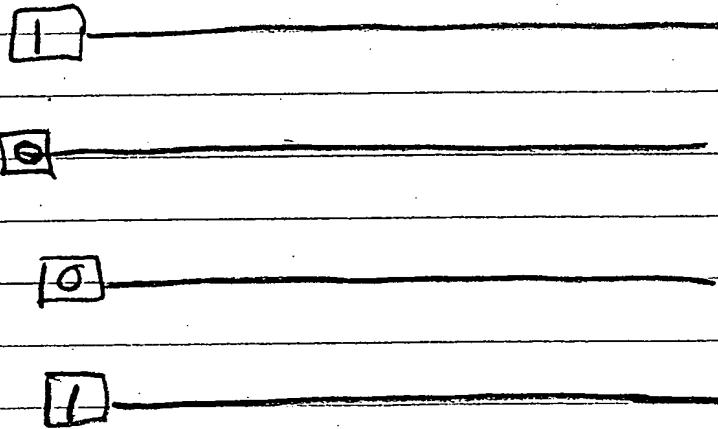


Figure O3

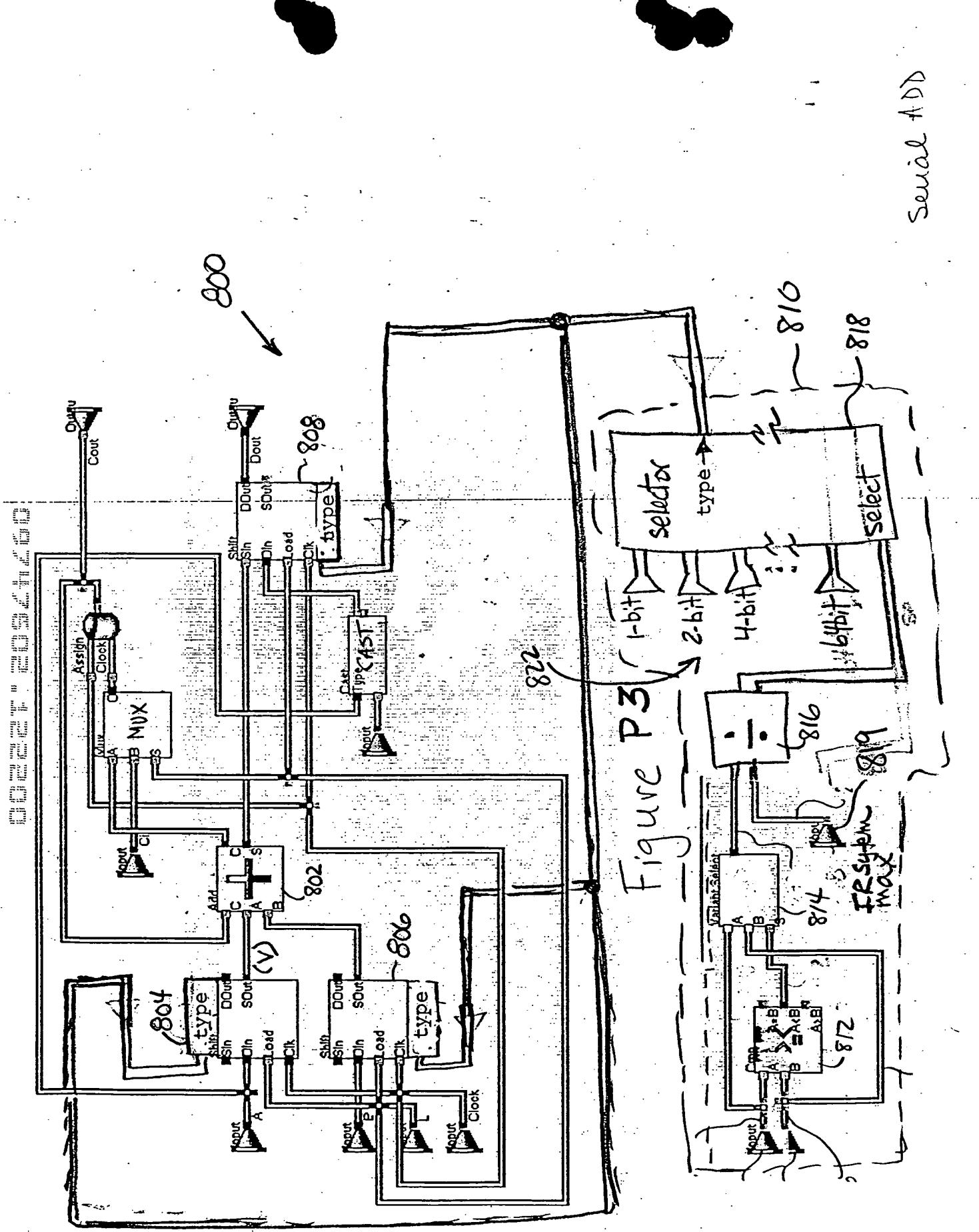
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A	1	1	0	1	0
B	1	0	0	0	1
SUM	1	0	1	0	00

2-bit Serial add
Figure P1

Carry	1	0	0	1	1	0	1	0
A	1	1	0	1	1	0		
B	1	0	0	0	0	1	0	
SUM	1	0	1	1	0	0	0	0

1-bit Serial add

Figure P2



44



Convent Sheet to Object

Item Low Level

卷之三

卷之三

卷之三

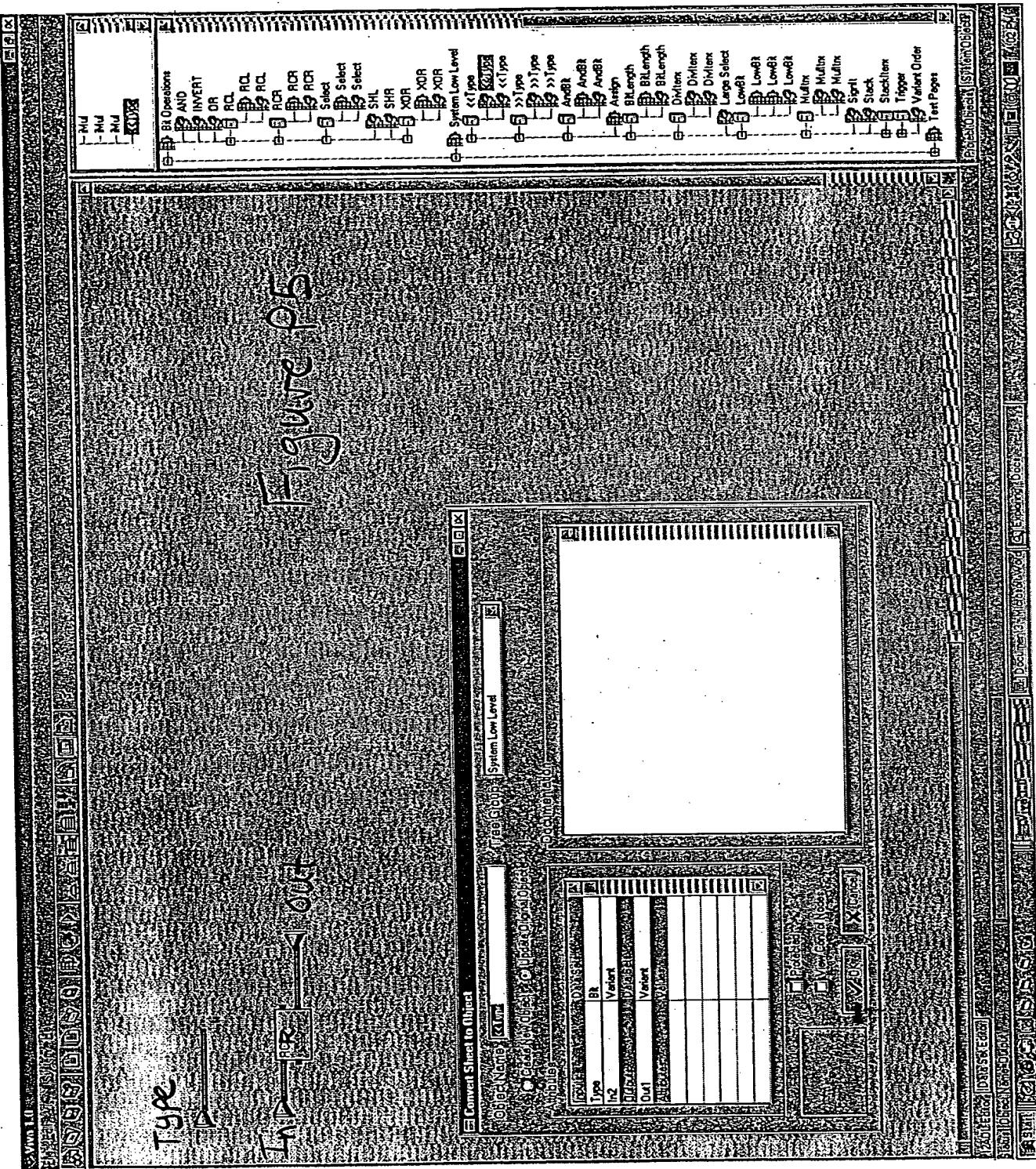
卷之三

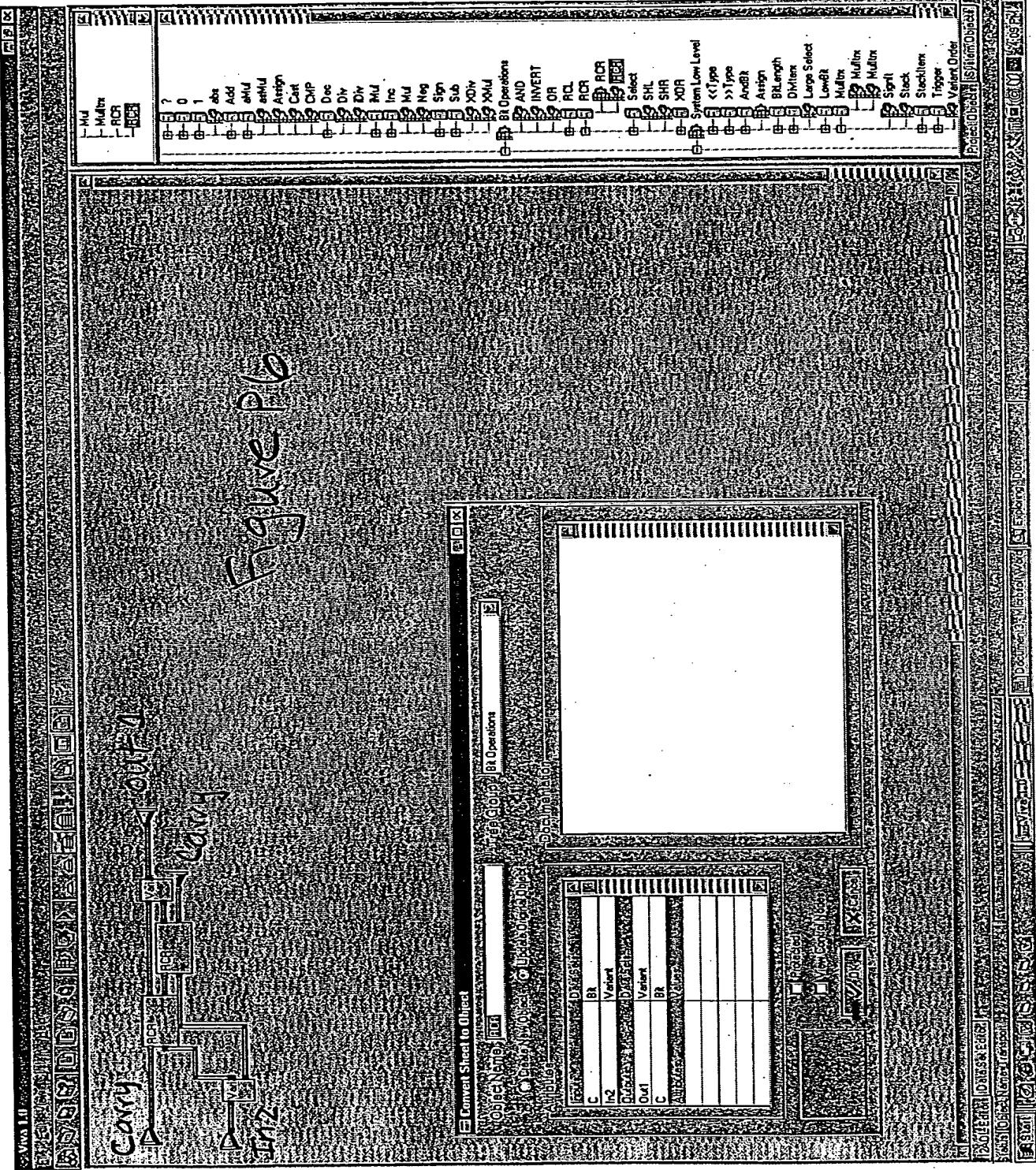
卷之三

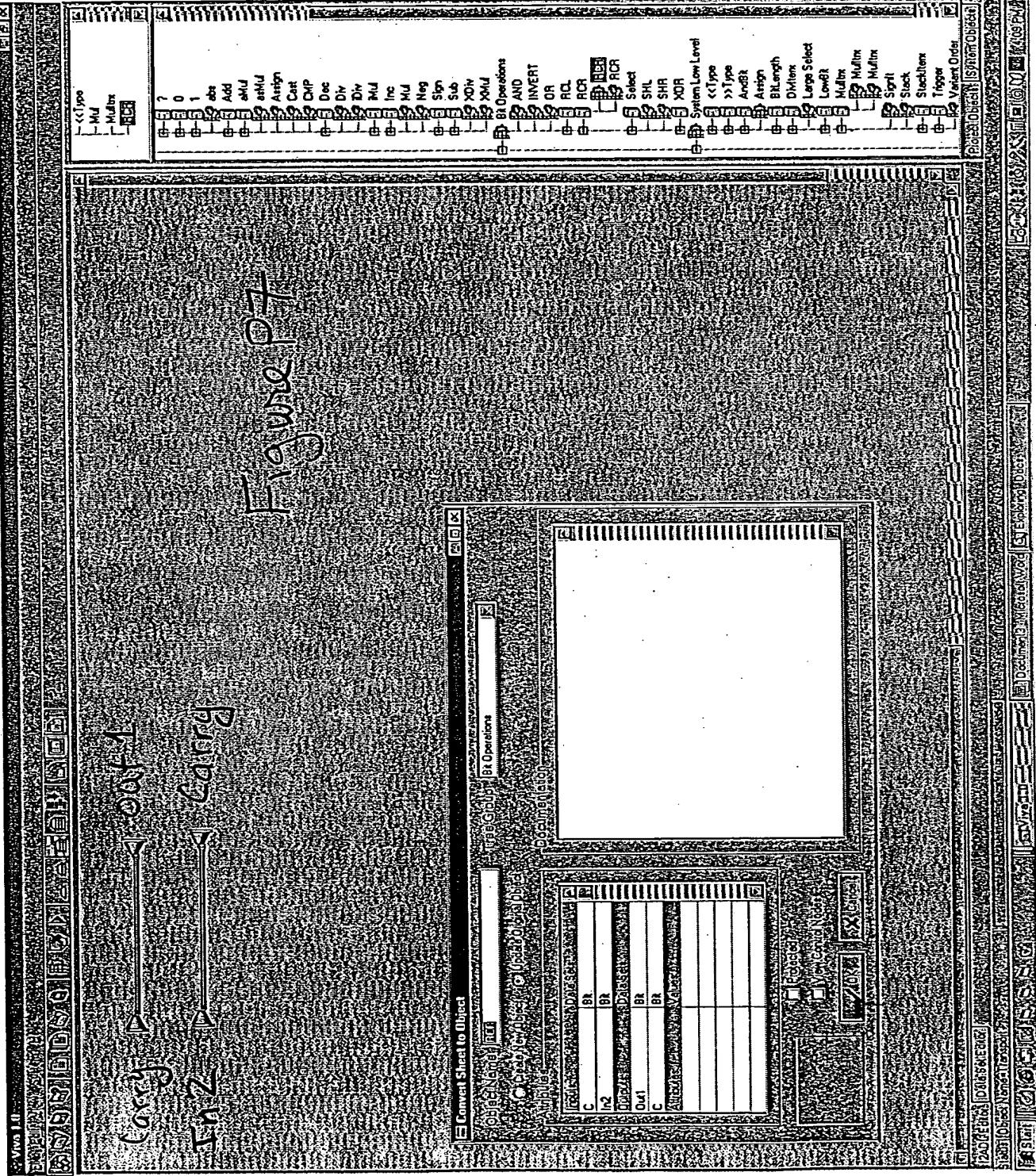
卷之三

卷之三

from 14







from 20